

**'It's Important to Know In Time'**

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**The Newspaper of the Industry****Air Conditioning & REFRIGERATION**

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**NEWS****'Written To Be Read on Arrival'**

Issued Every Monday at Detroit, Michigan

**APRIL 13, 1942**Vol. 35, No. 15, Serial No. 682  
Established 1926.**Price Ceiling Established On 44 Small Appliances****Aimed At 'Runaway' Price Tendencies as Production Is Curbed**

WASHINGTON, D. C.—Retail prices of 44 common electrical household appliances, ranging from curling irons to toasters, were ordered frozen as of April 7 by the Office of Price Administration at levels no higher than those in effect on March 30.

The temporary maximum price order applies also to wholesalers and manufacturers, Acting Administrator John E. Hamm announced.

"This action has been taken to prevent runaway prices in view of the War Production Board's order of March 30 halting production of these and other electrical appliances on May 31," Mr. Hamm explained.

"Rationing of these articles is not now contemplated," he said. Sufficient stocks are in distributors' hands or in the process of manufacture to last through most of this year, it is believed.

The temporary ceiling will apply until June 5 unless superseded earlier by a permanent schedule of maximum prices.

The order extends OPA control over retail prices to a wide list of consumers' articles. Last week OPA established maximum retail prices on new household mechanical refrigerators, vacuum cleaners, radios, washing and ironing machines, and typewriters.

Implementing the order on electrical appliances, OPA issued a prohibition against evasion through a decrease in allowances for transportation, or for cash quantity or other discounts, or through an increase in charges for time payments and repair service. Manipulating price increases through pyramiding of the Federal excise tax is also prohibited.

In this connection, Mr. Hamm pointed out, many manufacturers who publish price-lists have already revised their schedules to eliminate pyramiding of the manufacturers' excise tax so as not to pass on to the consumer more than the actual tax paid by the manufacturer. Under the order, all manufacturers must eliminate pyramiding from their price schedules.

The order applies to a wide group of electrical appliances with a rated

**President Declares Against Sales Tax**

WASHINGTON, D. C.—President Roosevelt in a press conference April 7 went on record as "not being inclined towards a general Federal sales tax."

On the same day Philip Murray, C.I.O. union head, made a formal statement to a Congressional tax committee declaring that "the sales tax would fall most lightly on those capable of paying much higher income taxes and would fall most heavily upon workers, many of whom had incomes insufficient even now."

**Camp Livingston Gets Cooling For Offices**

NEW ORLEANS—Administrative office buildings at Camp Livingston near here, largest selectee-training cantonment in the South, have been air conditioned for the coming summer months with a series of small 5-ton Westinghouse package units distributing cooled air through short ducts which supply individual offices.

**Distributor's Position On Sales Clarified**

WASHINGTON, D. C.—Just where the distributor of household electric refrigerators stands with respect to his stocks of such units has been cleared up by some recent interpretations of Amendment No. 2 to Order L-5-b, which amendment "unfroze" stocks in the hands of retailers.

If the distributor is a retailer as well as a wholesaler he may sell at retail that proportion of the electric refrigerators on hand on Feb. 14, 1942, which his retail sales bore to his total sales in 1941.

A distributor may also fill from his frozen stock of electric refrigerators orders having a preference rating of A-10 or higher.

The amendment permits a distributor to sell back any of his refrigerators to a manufacturer.

A factory branch or subsidiary of a manufacturer which performs the same function of a distributor is accorded the same privileges.

**Order Freezes Stocks Of Stainless Steel**

WASHINGTON, D. C.—No more fabrication of any raw stock of corrosion and heat resistant chrome steel (stainless steel) is permitted other than on preference ratings A-1-k or higher, according to amendment No. 1 to order M-2-D.

This order says:

"Except pursuant to specific authorization or direction of the Director of Industry Operations, no person shall consume, use, process, fabricate or deliver corrosion or heat resistant alloy iron or alloy steel containing 4% or more of chromium except in accordance with the following:

(1) The above prohibition shall not apply to material to be delivered by the holder on a preference rating of A-1-k or higher.

(2) The above prohibition shall not apply to full fabricated articles. It shall apply to raw steel stock in the form received, or cut to size for further processing or fabrication.

Stainless steel has been widely used in the refrigeration parts industry for valve and control parts.

**Hoover Co. Penalized For Aluminum Use**

WASHINGTON, D. C.—Charged with diverting 500,000 pounds of secondary aluminum from the requirements of the war program, the Hoover Co. of North Canton, Ohio, said to be the third largest manufacturer of vacuum cleaners in the country, was prohibited on April 7 from fabricating or dealing in aluminum for three months.

The penalty was imposed by the WPB Division of Industry Operations.

One of the charges declared that from July to October 1941 the company made shipments of 23,615 pounds of aluminum, approved by the OPM on the company's statement that it was to be used for circuit breakers, where actually, the charge alleges, it went into motor bases and small motor parts.

**200 Junked Cabinets Equal One Tank**

NEW YORK CITY—Two hundred refrigerators yielding 28,000 lbs. of sheet steel will furnish armor for one light tank, the New York State Salvage committee reports. A single junked refrigerator equals 140 lbs. of steel.

**Limits Are Set on Inventories Of Any Refrigeration Supplies****Further Reduction Of Civilian Copper Use Is Imminent**

WASHINGTON, D. C.—Rapid acceleration of the nation's arms production has resulted in a shortage of copper that will result in additional drastic curtailments of the amount assigned to civilian uses, William L. Batt, chairman, Requirements Committee, has announced.

The Committee has adopted an overall program allocating the available supply of copper for the current quarter of 1942, Mr. Batt said. It calls for a drastic reduction in copper consumption by civilian users.

Direct military and shipbuilding requirements and the vital needs of the United Nations for the quarter will require practically all the copper available, in spite of the fact supplies of the metal have reached an all-time record.

At the same time, some copper is necessary for the maintenance of vital civilian operations, even at the expense of military production. Included in these civilian needs are copper for power lines, for new war plants, for machine tools, railroads, and the like. The result is that civilian consumption, even in important operations, will have to be curtailed.

The program contemplates a cut of approximately 60% in civilian use of copper from that of 1940, with a large proportion of the remaining 40% devoted to "behind the lines" uses that support the military establishment.

The overall program taken into account the requirements for military uses of copper presented by Maj. Gen. H. K. Rutherford for the Army, Rear Admiral Henry Williams for the Navy, Rear Admiral H. L. Vickery for the Maritime Commission, Lieut. Col. R. B. Lord for the Board of Economic Warfare and Hamilton Robinson for the Lend-Lease Administration.

The civilian program is the result of a study conducted by the Division of Civilian Supply under the direction of Joseph L. Weiner.

(Concluded on Page 21, Column 5)

**Cincinnati G & E Will Close Retail Stores**

CINCINNATI—Because they "can no longer secure a flow of merchandise in the volume and variety in keeping with the standards of these stores, and the condition is becoming increasingly difficult," the seven appliance shops operated in Greater Cincinnati and nearby territory by the Cincinnati Gas & Electric Co. and the Union Light, Heat & Power Co., Inc. will be closed about May 1, it was announced.

"Since the production of gas and electric appliances will be limited during the war, our withdrawal from merchandising activity may be of assistance to other merchants who continue the sales of appliances and lamps," the utilities explained in local advertising.

No clearance or removal sales are contemplated. The merchandise unsold at the time of closing will be disposed of in a normal manner, the copy stated. The utilities will attempt to provide employment for as many of their employees as possible. For the time being the various offices are remaining open for the payment of bills and other business.

The stores are located in Cincinnati, Covington, Ky., Newport, Ky., Bellevue, Ky., Franklin, Ohio, Milford, Ohio, and Middletown, Ohio.

**Will Be Double or Treble Monthly Sales Volume, According To Zone**

WASHINGTON, D. C.—Inventories of 19 kinds of supplies, whether in the hands of wholesalers, distributors, jobbers, dealers, retailers, or branch warehouses are strictly limited by Suppliers' Inventory Limitation Order L-63, issued April 6 by the Director of Industry Operations. "Refrigeration Supplies" is one of the classifications listed.

Wholesalers and dealers affected by the order who are located in the eastern and central time zones are required to limit their inventories to twice the dollar value of sales of the specified types of supplies which they shipped from stock in the second preceding calendar month.

Suppliers located in other time zones may have inventories equal to three times the corresponding amount. Shipments made directly from producers to customers in which the distributor acts only as an agent may not be included as a basis for calculating permissible inventory.

Suppliers whose total inventory at cost is less than \$20,000, and less than \$10,000 for any one of the listed types of supplies, are exempt from the terms of the order. Special provision is also made for inventories of seasonal supplies.

Today's order supersedes Suppliers' Order M-67, covering plumbing, heating, and electrical supplies, which is revoked.

Suppliers affected by the order are required to keep records of their inventory and sales on Form PD-336, and to keep this form in their files for at least two years.

Separate records must be kept for each type of supplies handled by the distributor or dealer.

Inventories of material frozen by the "L" or other orders should be included in the inventory records. The provisions of L-63 do not relieve suppliers from responsibility of compliance with any other applicable order or orders.

Suppliers affected by the new order whose inventories on hand at the time the order was issued exceed the

(Concluded on Page 21, Column 1)

**Knoxville Dealers Swap Parts, Up Repair Prices**

KNOXVILLE, Tenn.—Swapping of parts, where replacements are not immediately available, is now the order of the day among electrical appliance dealers here following a proposal of the Knoxville Major Appliance Bureau.

Dealers keep a record of their stock, so that when one is out of a certain part which another can furnish, a swap is arranged, according to Clyde Carpenter, Jr., City Power Board sales manager.

Knoxville dealers also are putting emphasis on servicing in order to keep in contact with customers during the War. Charges for answering service calls have been increased and stabilized. For the first hour the charge is now \$2, instead of \$1.50, and \$1.50 for each additional hour, besides material costs.

**Electrical Wholesalers Will Meet May 17-20**

HOT SPRINGS, Va.—The National Electrical Wholesalers Association will stage its thirty-fourth annual convention from May 17 to 20 at the Homestead here, E. Donald Tolles, managing director of the association, announced this week.



## Appointments & Promotions

### Kersh In Houston Office For Westinghouse Mfg.

HOUSTON, Tex.—Robinson S. Kersh, an industrial sales engineer, has been appointed manager of the Houston, Texas, office of the Westinghouse Electric & Mfg. Co., according to C. E. Allen, southwestern district manager.

Mr. Kersh had experience in various headquarters sales sections of Westinghouse before being transferred in 1931 to the Atlanta sales office. Later the same year he was assigned to Birmingham, Ala., and remained at that office until 1938 when he moved to the machinery electrification and aviation section.

### MacGregor Gets New Position at du Pont

WILMINGTON, Del.—Frank S. MacGregor, director of the priorities division of E. I. du Pont de Nemours & Co., Inc. since June, 1941, has replaced Milton Kutz as assistant general manager of the R. & H. Chemicals Department.

Mr. Kutz, who has been assistant general manager since 1933, has been away for several months because of ill health and upon his return will assume new duties as sales advisor and assistant to the general manager of the R. & H. Chemicals Department.

### Frank Pierce To Add Blee's Job To Own

DETROIT — Following the announcement by William A. Blee, formerly general sales manager of Nash Motors that he will take a leave of absence and then enter war work, Nash-Kelvinator Corp. has named Frank L. Pierce, vice president in charge of sales for both Nash and Kelvinator divisions, to take over Mr. Blee's duties.

### V. J. McIntyre Sales Head For Dictograph Division

NEW YORK CITY—Vincent J. McIntyre, formerly manager of the electric refrigerator department of Montgomery Ward & Co. has been named general sales manager for the acousticon division of the Dictograph Sales Corp. Prior to his affiliation with Montgomery Ward, Mr. McIntyre was sales manager of the washing machine division of the Nash-Kelvinator Corp.

### Howard Fleck Heads Walther Bros. Sales

NEW ORLEANS—Walther Brothers, Philco distributor, has named Howard Fleck to manage retail sales.

## Crosley Reports Big Jump In '41 Sales, Much Gov't Work

CINCINNATI—Operations of the Crosley Corp., for the year 1941 resulted in a net profit after all charges and taxes of \$1,493,134.86, it is reported by Powel Crosley, Jr., president.

Net sales of the corporation showed an increase of more than \$10,000,000 over the previous year. Net sales in 1940 amounted to \$16,915,349 and in 1941, \$27,171,880, an increase of over 60%. The next best 12 months' sales in the corporation's history were made in the period ending March 31, 1936 when the net sales amounted to \$21,903,700.

"Substantial important prime government contracts have been received from both the Army and the Navy," said Mr. Crosley in his statement. "Already, our contracts calling for delivery this year exceed by several times our total volume of business last year or any previous year."

"These prime contracts coupled with substantial sub-contracts have resulted in the full utilization of our refrigeration facilities in the Cincinnati plant."

"Our radio facilities will be producing many times their peacetime volume, on war work, during 1942."

"Even with an anticipated expansion of our present radio facilities, it will be necessary for your company to sub-contract a considerable portion of its 1942 production, in order to meet the demands of the Army and the Navy."

## Distributor-Dealer Doings

### Appliance Dealer With Experience In Furniture Retailing Says 'Mix 'Em Up'

ST. LOUIS—Appliance dealers who are thinking about furniture as a possible supplement to electrical equipment no longer available can find encouragement in the experience of Ralph Crancher, president of South Side Radio & Furniture Co., 3630 Grand Ave., who put in a full-size furniture department three years ago and saw his gross volume jump to more than \$500,000 in 1941.

Mr. Crancher, a Frigidaire dealer who reputedly does a normal refrigerator volume in excess of 600 units a year, added his furniture department to build up "related selling" volume to his appliance and radio operations.

He protected himself against costly mistakes in furniture merchandising by adding a veteran furniture man to the buying staff, who trained the

store's four salesmen to "intertell" between the three departments. He also took advantage of an 80-foot store front by installing huge open display windows, which more than 50,000 persons pass daily.

Windows are stocked with "mixed up" furniture, appliances, and radios, deliberately intermingled so that the motorist passing at 30 miles an hour can get a quick idea of the store's contents. No other advertising has been required—and South Side Radio & Furniture Co.'s gross volume has jumped from \$200,000 per year in 1937 to more than \$500,000 in 1941.

"Appliances help sell furniture, and vice versa," Mr. Crancher explains. "We think any appliance dealership will find furniture a most logical sideline, if one is to be added."

### Salesgirl Using a Telephone Replaces the Entire Sales Force For Arkansas Dealer

HOT SPRINGS, Ark.—Vaughan Hardware Co., appliance dealer, has replaced its sales force with one specially trained appliance salesgirl to contact prospects via the telephone.

The dealer went to the telephone company to find a young woman with a pleasant, intimate voice which would register well with Hot Springs housewives. After testing several, one was chosen, and brought into the store to be put through a month of intensive training on all aspects of appliance merchandising. She learned how appliances are made, the selling points of one brand compared with another, how they are reconditioned, prices, etc., spending a few days in each phase of the business. Then she was placed at a desk equipped with a telephone and complete information on the store's ap-

pliance lines, notebook, and cardfile.

Making telephone calls only during the morning hours from nine to 12, Vaughan's telephone salesgirl averages from 18 to 25 prospects a day, spending her afternoons following up with personal appointments made over the telephone. In each case, she tells the housewife that the store is surveying the use of modern home appliances under war conditions and asks her to tell what equipment she plans to replace in the near future.

If the prospect indicates she is in the market for a new unit, the telephone girl attempts to make an appointment for the afternoon or following day, when she can either visit the housewife in her home or bring her to the store to look over appliances in stock.

### Small Appliance Sales Booming In Atlanta

ATLANTA—Georgia Power Co.'s all-employee \$106,184 sales of small appliances through January and February added up to the best first-two-months period in company history.

Total sales were 139.80% of an increased quota and easily topped last year's mark of \$105,132.

### Midland Co. In Cleveland Takes Larger Quarters

CLEVELAND—Larger showrooms and service shop are features of the new location of the Midland Radio Co., Gibson refrigerator and range distributor here, at 2125 Superior. The company purchased the new building last year and has just moved in, John Walker, sales manager, said.

### Floor Coverings Big Aid To Defense Area Dealer

JACKSON, Miss.—Merchandise shortages have involved less worry for R. A. Brock, head of Brock Sales Co., Philco dealer here, since he converted half of his appliance showroom to display of 150 patterns of linoleum in six weights.

Mr. Brock, who formerly sold Jackson's largest Philco appliance volume, "saw it coming" late last year, when he formed the Capitol Floorcovering Co., and laid in a \$2,000 stock of hard surface floor coverings of various sorts, which the same salesmen who formerly sold all appliances are now carrying to defense housing contractors around the city.

Ninety-five per cent of the linoleum sales to date, Mr. Brock says, have been to brand new homes constructed under FHA defense housing regulations.

## ON GUARD... ANSUL RESEARCH



Ansul has long been proud of its Research Department, proud of the exacting way in which it has stood guard over the quality of Ansul products.

But Ansul research men have done more than that—they have constantly sought to make Ansul products better, to check fully into the performance of these products, and to give technical aid and information to Ansul customers, and to the whole industry as well.

### SEVEN ORIGINAL ANSUL RESEARCH PAPERS AVAILABLE ON REQUEST

- Corrosion of aluminum with methyl chloride
- Refrigerant driers
- Corrosion of metals by wet refrigerants
- Separation of wax from oil-refrigerant mixtures
- Methyl alcohol in refrigerating machines
- Pressure drop in suction and liquid lines
- Sludges

ANSUL CHEMICAL COMPANY  
MARINETTE, WIS.

**ANSUL**  
SULPHUR DIOXIDE • ICE-X • METHYL CHLORIDE  
AGENTS FOR  
KINETICS "FREON-12"  
LET THE ANSUL JOBBER NEAR YOU SERVE YOU BETTER

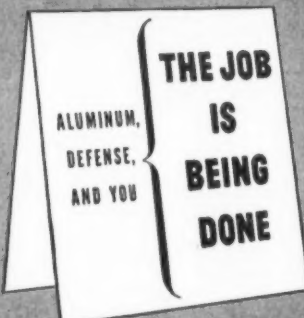
**FORGET  
YOUR OLD  
ASSUMPTIONS**

**IMAGINEERING**

**IMAGINEERING**

**IMAGINEERING**

**IMAGINEERING**



**IN THESE DAYS** an advertisement is no place either for hosannas or sermons about production. Every man knows how well he is doing the job that is before him. Deeds, not words, are the measure.

**BUT WORDS CAN BECKON** beyond the realms of immediate duty.

**IMAGINEERING** is such a word. We coined it to make the needs of the future a reality, here and now. It is a way of describing what a man can do about the day when...

**HOW DO YOU DO IT?** You let your imagination soar and then engineer it down to earth. You think about the things you used to make, and decide that if you don't find out some way to make them immeasurably better you may never be asked by your customers to make them again.

**YOU FORGET YOUR OLD ASSUMPTIONS.** For instance, you may be one who used to assume that aluminum was too expensive. Even if you were right then (and you may not have been) the price trend of aluminum knocks those assumptions into a cocked hat.

**WERE YOU ONE** who used to assume that structures behaved exactly the way the theory said? Have you looked into the new answers the mammoth testing machine in the Aluminum Research Laboratory has found for that one?

**DID YOUR OLD PRODUCT GROW** like Topsy? More than one designer is Imagineering with this point of view: My product was in a groove. I couldn't get it out, because I didn't dare get too far away from last year's model. Now's my chance to start from scratch, and let tradition be hanged.

**THAT IS THE KIND OF THINKING** that will make jobs in the future. It is the kind we can help with: help with ideas and with know-how. Will you invite us?

Aluminum Company of America, 1975 Gulf Building, Pittsburgh, Pennsylvania.

**ALCOA ALUMINUM**





**Sell Service Now - -****Reed Outlines Plan for 'Selling' Inspection Service To Owners**

NEW YORK CITY—"Now is the time to get out and establish your position as a repair agency that can do good work and whose service is prompt and dependable," advised P. B. Reed, service manager of the electric refrigeration and air conditioning division of Servel, Inc., in a bulletin to all distributors, dealers, and service companies.

"As the war continues the repair business in all lines will increase and will be an even more important phase of equipment business than it now is and will tend to make up for any tendency toward reduction in other phases of business," he declared, adding that the general public is now conservation-minded and is in the mood to spend money on repairing and renewing old equipment.

"See that your service men are capable, fast workers. Employ only the best you can get as they are the cheapest in the long run. Check over your shop, tools, and parts. Advertise and publicize your ability and desire to aid in the conservation movement," Mr. Reed stated.

Suggesting free inspections be offered, Mr. Reed told service companies to show their customers that by periodic inspection, oiling, and minor repairs the life of the equipment can be greatly extended and the usage of electricity and the cost of operation can be held to the minimum.

"This is a particularly favorable time of the year to begin such activities," Mr. Reed pointed out. "Varying with the seasons of the country, warmer weather is approaching with its heavier loads on the machines. Now, before the heavy spring rush (which will probably be much heavier than ever this spring), and while your service men are not so busy is the time to check, readjust, or repair these machines and prevent, not only more serious trouble later, but also avoid the frenzy, overwork, and overtime on the service men when the warm weather breaks."

Following is a letter suggested by Mr. Reed that could be mailed to users of refrigeration machines in one's area and then followed up by a telephone canvass.

Dear Sir:

The War Effort is requiring that more men, more money, more machines, and more materials be diverted from the production of civilian needs so that today we all realize that we should take good care of what we now have. In the not-too-distant future we may not be able to replace them—some things we can't replace now, notably automobile tires and mechanical refrigerators.

The old saying, "A stitch in time saves nine" never applied with more importance than it does now. Let's not wait for serious breakdowns but instead let's keep our equipment checked over to catch little things that can be repaired or adjusted now with little work and at little cost, before they grow to the point where they will become expensive to repair and expensive from loss of food or other products stored.

**WPB To Try Listing Of Sub-Contract Work**

WASHINGTON, D. C.—A directory of war work to be sub-contracted will be tried on a limited scale in the Chicago area in the near future, according to William H. Harrison, director of Production of the War Production Board.

In the test, selected prime contractors will list the work they have to be done, by separate parts, classifying each by the machine needed to make it, the tolerances required, and the hours per week these machines have to work.

Lists prepared by the prime contractors will be distributed to a group of potential sub-contractors who will have the opportunity to pick out and consider the jobs they are equipped to handle. This places them in a position to deal directly with the prime contractors.

Even before the "little things" grow to serious proportions, they are causing the equipment to operate less efficiently than it should so the cost of operation is higher than it should be.

Our refrigeration service department is capable; our men are experienced and familiar with your equipment. Call us and have us check over your equipment. For a limited time only we will inspect your installation FREE and give you a FREE quotation if any repairs or adjustments are necessary.

Warm weather is not far off. Be prepared. Save needed strategic material and save money for yourself. Call us —, phone — today.

**Pan-American Airways Buys Packaged Units For Wide Variety of Uses**

NEW YORK CITY—A total of 69 3 and 5-ton Chrysler Airtemp air conditioning and refrigeration units complete with accessories have arrived at the far flung stations of Pan-American Airways to protect life, conserve human energy, and guard food supplies while operating under severe climatic conditions.

The equipment had to be self-contained, ready to operate on arrival, completely portable for possible use at a number of points, and flexible enough to meet the varying loads of extreme climatic conditions. Stocking and transporting of service parts, which had to be kept at a minimum, also presented a problem.

In connection with the stations, air conditioning was required for hospital operating rooms, offices, passenger sleeping and living quarters, passenger and crew dining rooms, as well as for operation and storage rooms. Some structures were already

built, with no blueprints available. Engineers also had to consider that loads in the various spaces would vary considerably.

After careful study, a final plan was developed based on the use of Airtemp 3 and 5-hp. air conditioning and refrigeration units.

Supervision of the installations and maintenance of the equipment was handled by Walter Hetzel, former service man with Airtemp New York Co. The self-contained equipment made it possible to use native labor for installation.

Lindsay Structure demountable metal buildings, designed as refrigeration storage buildings, were shipped disassembled. Two buildings 75 ft. long, 21 ft. wide, and 8½ ft. high, inside dimensions, were used for the storage of fruits and vegetables, having temperatures of between 35 and 40° F. Two other buildings were designed as two-

temperature jobs with perhaps two-thirds of the building cooled to 15 to 18° F. and the balance to 0° F. Native labor again could be used to assemble these structures.

The food storage buildings were cooled by two Airtemp 5-hp. self-contained commercial refrigeration machines, while the two-temperature structures are equipped with three units of the same type.

Refrigeration systems were completely tested and charged with "Freon-12" before shipment and all controls were wired, so that all that was necessary on arrival was the removal of the large packing cases in which the units were shipped. Low temperature fan-coil units were equipped with manual water defrosting, and Airtemp refrigeration machines are cooled by the use of Marley cooling towers.

The buildings were so planned that the refrigeration compressor and air handling units are mounted on opposite sides of a section of the wall. As the building is assembled, this section, including the refrigeration equipment, is rolled into place on specially constructed skids and then bolted to the building structure.

**KEEP THAT CYLINDER ON THE JOB!**

*...How you can help avoid a shortage of "Freon-12"*



"FREON-12" cannot be contained in paper bags, glass jars, or fiber board containers. The Interstate Commerce Commission has provided for many years that refrigerant gases must be shipped in pressure cylinders complying with certain specifications.

These cylinders are manufactured by only three companies, whose output is limited. Beyond that, there is a shortage of steel for the war program.

There is no shortage of "Freon-12" at this time, and there is a good chance that there will be no further shortage of the refrigerant itself, owing to the stepping up in capacity of Kinetic's plant and the satisfactory raw material situation.

But there is a serious shortage of steel pressure cylinders which can only be relieved by your returning the empty cylinders you and your customers have on hand.

1. Jobbers and retailers should call up every

customer and keep after him until he returns the empties.

2. Servicemen should advise owners of air conditioning machines that now is the time to service these machines and make up any refrigerant losses. This can be done right now because WPB has released during March all the "Freon-12" immediately necessary for servicing air conditioning equipment. Do this job now, and return the empty cylinders.

When you return empty cylinders you get money for them, and this helps finance more work. By returning them now, you are helping to prevent a shortage of "Freon-12."

Kinetic Chemicals, Inc., has never obligated itself to take back empty cylinders that are out of its plant over 90 days, except those cylinders shipped abroad by Kinetic. Kinetic will take these cylinders back now, but reserves the right to refuse them if you hold them too long.

Won't you for your own self-interest, the interest of your neighbors, and for patriotic reasons, return empties which are needed in the war program? If you will use extra effort in hunting up empties, you will have contributed much toward the war effort.

Do your part to avoid a shortage at the points where "Freon-12" is needed. Make a serious and concentrated drive now to return "Freon-12" cylinders.

\*"Freon" is Kinetic's registered trade mark for its fluorine refrigerants



**FREON**

REG. U. S. PAT. OFF.

*safe refrigerants*

KINETIC CHEMICALS, INC., TENTH & MARKET STREETS, WILMINGTON, DELAWARE



## Ceiling Placed on Prices For 44 Appliances, Tax Pyramiding Curbed

(Concluded from Page 1, Column 1)  
electrical capacity up to 2,500 watts, or powered by an electrical vibrator or electrical fractional horsepower motor.

### Text of the Order

PM 2859  
TITLE 32—NATIONAL DEFENSE  
CHAPTER XI—OFFICE OF PRICE  
ADMINISTRATION  
Part 1370—Electrical Appliances

Temporary Maximum Price Regulation No. 18—Domestic Electrical Appliances  
In the judgment of the Price Administrator it is necessary and proper in order to effectuate the purposes of the Emergency Price Control Act of 1942 to establish temporarily as the maximum prices for household electrical appliances the prices prevailing with respect thereto within five days prior to the issuance of this Regulation.

Therefore, under the authority vested in me by the Emergency Price Control Act of 1942, and in accordance with Procedural Regulation No. 1, (F. R. 971) issued by the Office of Price Administration, Temporary Maximum Price Regulation No. 18 is hereby issued.

Authority: Sections 1370.51 to 1370.61 inclusive, issued under the authority contained in Pub. No. 421, 77th Cong., 2d Sess.

Section 1370.51. Maximum prices for domestic electrical appliances.

(a) On and after April 7, 1942, to and including June 5, 1942, regardless of any contract, agreement, lease, or other obligation, no persons shall sell or deliver domestic electrical appliances at prices higher than the maximum prices established herein; and no person shall agree, offer, solicit or attempt to do any of the foregoing. The provisions of this

section shall not be applicable to sales or deliveries of domestic electrical appliances to a purchaser if, prior to April 7, 1942, such appliances had been received by a carrier, other than a carrier owned or controlled by the seller, for shipment to such purchaser.

(b) The maximum price for any domestic electrical appliance shall be the highest net price, exclusive of federal excise tax, for which an appliance of the same make and model was sold or contracted to be sold, on March 30, 1942, by the manufacturer, wholesaler, dealer, or other seller, to a purchaser of the same general class. In the event that there was no such sale, the maximum price shall be the highest net price for which an appliance of the same make and model was sold, or contracted to be sold, by the same seller, on the nearest preceding date on which such a sale was made, to a purchaser of the same general class.

(c) There may be added to the maximum price established by this Temporary Maximum Price Regulation No. 18 the amount of tax levied by any State or municipal sales, gross receipts, gross proceeds, or compensating use tax statute or ordinance, under which the tax is measured by gross proceeds or units of sale, if, but only, if

(1) such statute or ordinance requires the vendor to state the tax, separately from the purchase price paid by the purchaser, consumer, or user, on the bill, sales check, or evidence of sale, at the time of the transaction; or

(2) such statute or ordinance requires such tax to be separately paid by the purchaser, consumer or user with tokens or other media of State or municipal tax payment; or

(3) such a statute of ordinance permits the vendor to state such tax separately, and such tax is in fact stated separately by the vendor. The amount of tax permitted to be added by this provision shall in no event exceed that paid by the purchaser, consumer, or user.

Section 130.52. Less than maximum

prices. Lower prices than those set forth in this Temporary Maximum Price Regulation No. 18 may be charged, demanded, paid, or offered.

Section 1370.53. Conditional agreements. No seller of domestic electrical appliances shall enter into an agreement permitting the adjustment of the prices to prices which may be higher than the maximum prices provided herein, in the event that this Temporary Maximum Price Regulation No. 18 is amended or is determined by a court to be invalid or upon any other contingency.

Provided, That, if a petition for amendment has been duly filed, and such petition requires extensive consideration, and the Administrator determines that an exception would be in the public interest pending such consideration, the Administrator may grant an exception from the provisions of this section permitting the making of contracts adjustable upon the granting of the petition for amendment. Requests for such an exception may be included in the aforesaid petition for amendment.

Section 1370.54. Evasion. (a) The price limitations set forth in this Temporary Maximum Price Regulation No. 18 shall not be evaded, whether by direct or indirect methods, in connection with an offer, solicitation, agreement, sale, delivery purchase or receipt of or relating to domestic electrical appliances, alone or in conjunction with any other commodity or by way of commission, service, transportation, or other charge, or discount, premium or other privilege, or by tying agreement or other trade understanding, or otherwise.

(b) Specifically, but not exclusively, the following practices are prohibited:

(1) Decreasing cash discounts, quantity or other purchase discounts, or allowances for or absorption of transportation costs, below those available or in effect on March 30, 1942, for a purchaser of the same general class.

(2) Increasing charges for repair service, in connection with the sale of an appliance, above those available or in effect on March 30, 1942, for a purchaser of the same general class.

(3) Failing to give or shortening the effective period of guarantee or warranty of performance, or of repair service, available or in effect on March 30, 1942, for a purchaser of the same general class.

(4) Incorrectly representing any portion of the price as constituting the

## Men In New Executive Posts With Westinghouse



**B. W. CLARK**  
Vice president in charge of sales for the company.



**JOHN H. ASHBAUGH**  
Manager of the merchandising division at Mansfield.



**REESE MILLS**  
Assistant manager of the merchandising division.



**T. J. NEWCOMB**  
Sales manager for all merchandise products.

## and Now - IDEAL STOPS THIRST COLD

at Camp Blanding.



One of the 33 Post Exchanges at Camp Blanding, Florida; equipped with a total of 34 Ideal Beverage Coolers sold and installed by Floyd Harper Distributor, Jacksonville, Florida.

Again and again Ideal has been called in to stop thirst cold at the Nation's great army camps—AN ALL CONSUMING THIRST that defies ordinary methods of refrigeration.

Why does Ideal succeed where others fail?—Because, knowing fully the performance army camps demand, Ideal has developed a special Army Camp Cooler. A cooler that stays COLD under fire like the boys whose thirst it stops.

The latest addition to the ever growing number of camps that have approved Ideal beverage coolers is Camp Blanding, Florida.

★ **Distributors:** Here's your opportunity to make good with the right cooler in your territory. Write today to Ideal for full information on the special Army Camp Cooler, and see how YOU can handle army camp business with the full assurance of satisfactory performance.

**The IDEAL BEER COOLER CO.**  
2953 EASTON AVE.  
ST. LOUIS, MO.

## Worth looking for

THE sure way to get gauges and dial thermometers that will meet today's heavier responsibilities is to look for the name MARSH. In the first place Marsh Instruments offer you every measure of accuracy and stamina that can be packed into a case, because Marsh has the know-how that comes from 75 years of gauge making. But that isn't the only reason. Beyond this basic perfection, Marsh alone offers the Marsh "Recalibrator", the only real defense against the jars and jolts of hard service for years to come.

The "Recalibrator" is available in all Marsh Gauges, standard in Marsh Dial Thermometers. It is typical of the many refinements you will find throughout the broad Marsh line. Write for the big refrigeration catalog.

**JAS. P. MARSH CORPORATION**  
2067 Southport Ave., Chicago, Ill.

**MARSH**  
Refrigeration Instruments



Any gauge can be rough handled out of adjustment. However, if it's a Marsh "Recalibrator" Gauge, the twist of a screwdriver re-establishes the proper relation between the gauge tube and the gauge movement—makes the gauge accurate again at every point on the dial.

Send To For

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## Senate Approves Bill To Provide Capital For Small Business

WASHINGTON, D. C.—The Senate Banking and Currency committee by 16 to 2 stamped approval last week on a bill proposing the establishment within the War Production Board of a Smaller War Plants Corp. with a capital of \$100,000,000 to help small businesses to take a larger part in the armaments program.

The new corporation would be under the supervision of Donald M. Nelson, WPB chairman, who would appoint a deputy to assist him in seeing that small plants get sub-contract orders, in providing funds for plant conversion, and in looking after the interests of war-stricken small businesses in general.

About 45,000 smaller concerns will be helped to get war orders and 139,000 more to obtain materials for civilian manufacture under the approved plan.

Contrary to past procedure, the committee barred amendments suggested by Jesse Jones, secretary of commerce, by a vote of 11 to 7, which would have eliminated the capital of the proposed corporation and placed loaning power in the RFC.

However, the committee did adopt an amendment granting to the RFC's Defense Plants Corp. authority to service loans granted by the proposed corporation to the WPB.

A statement by Senator Murray's special committee on small business said that the bill provides that the interests of small business shall be taken care of by the WPB in the following way:

"By the appointment of a special deputy in charge of small business problems under Mr. Nelson. The special deputy would be responsible for making inventories of facilities, dealing with procurement officers, supervising subcontracts, providing contracts to small concerns, certifying small concerns to procurement divisions, and making studies with respect to means by which small concerns may be supplied with essential materials and receive fair and reasonable treatment from all government departments and agencies without interfering with the efficiency of the war program."

## Hilbert Forsberg Wins G-E Sales Award

BOSTON—Hilbert Forsberg of the Forsberg Electric Co., Brockton, was awarded first prize for his letter, "Prospects Produce Profits," submitted to the dealer forum of the G-E Sales Managers Club in February.

Mr. Forsberg stressed the value of G-E appliance users as producers of additional sales and of leads for sales to new customers. The award, a desk set consisting of a clock and barometer, was presented by C. M. Wilson, manager of G-E's factory branch in Boston.

## Southern Wholesalers To Handle Bendix

WASHINGTON, D. C.—Southern Wholesalers, Inc., distributor in the Washington and Baltimore trading areas for Norge appliances, has been appointed distributor for the Bendix home laundry in the capital area.

Stephen Seth & Co., Inc., which formerly handled the distribution in the Washington area will continue to operate as distributor in Baltimore.

## Dealer Opens Store To Serve Defense Area

HATTIESBURG, Miss.—To provide appliances for the booming defense-home construction in south-central Mississippi, Modern Appliance Co., Crosley and Stewart-Warner dealership, opened here recently with K. S. and J. S. Runnells in charge.

## Long Beach Firm Changes

LONG BEACH, Calif.—The A1 Electric Co. at 329 American Ave., has been purchased by Earl Pittman from William P. Schoof.

## Card Plan Will Afford Day-To-Day Control Of Salesmen's Job

ATLANTA—In order not to leave a prospect unturned, R. L. Brooks and G. L. McWilliams, of Georgia Power Co.'s Commercial Store here conceived a new plan of sales control for their salesmen, working on a day-to-day record. This method, say its originators, when viewed over a period of several days or weeks, gives the salesmen and the senior salesman a ready means of analyzing past performance and picking out the weak spots in salesmen's activities.

Here's how it works:

Every afternoon the sales clerk takes each salesman's prospect cards marked for call-backs on the next day from his card index file and places them in a pocket-size folio with some blank cards, a small appliance order book, and a bulb price card. Special instructions from the senior salesman are also included.

Picking up his folio in the morning, each salesman follows up on the prospect cards and makes out new ones on each contact, noting the number of new cards made out and old ones worked in a space on the outside of the folio. He also lists the names of the customers called on, time of the calls, and his sales.

Upon receiving the salesman's folio the following morning, the sales clerk has a complete picture of his work the day before. From this record the clerk makes entries in the log book and posts sales on the progress chart.

## Electrical Center, Inc. Moves Camden Store

CAMDEN, N. J.—Electrical Center, Inc., operated by Milton and Larry Lewis, has moved to a new and larger store at 1211-13 Haddon Ave. here. In addition to refrigerators and appliances, the firm has added a complete line of furniture and jewelry.

## WPB Plans To Permit Further Production of Kerosene Models

WASHINGTON, D. C.—The WPB, acting to provide for essential government requirements, has excluded kerosene refrigerators from the order halting production of domestic mechanical refrigerators after April 30.

It is estimated that approximately 15,500 of this type of refrigerator, which is adaptable to all conditions of use, will be needed this year and next for essential government purposes. Should production be stopped April 30, only about 3,500 would be available to meet these demands.

Under an amendment to Order L-5-c, specific permission of the Director of Industry Operations must be obtained in order to continue production beginning May 1, and manufacturers must comply with minimum specifications for the kerosene-type established by the Army and other government agencies.

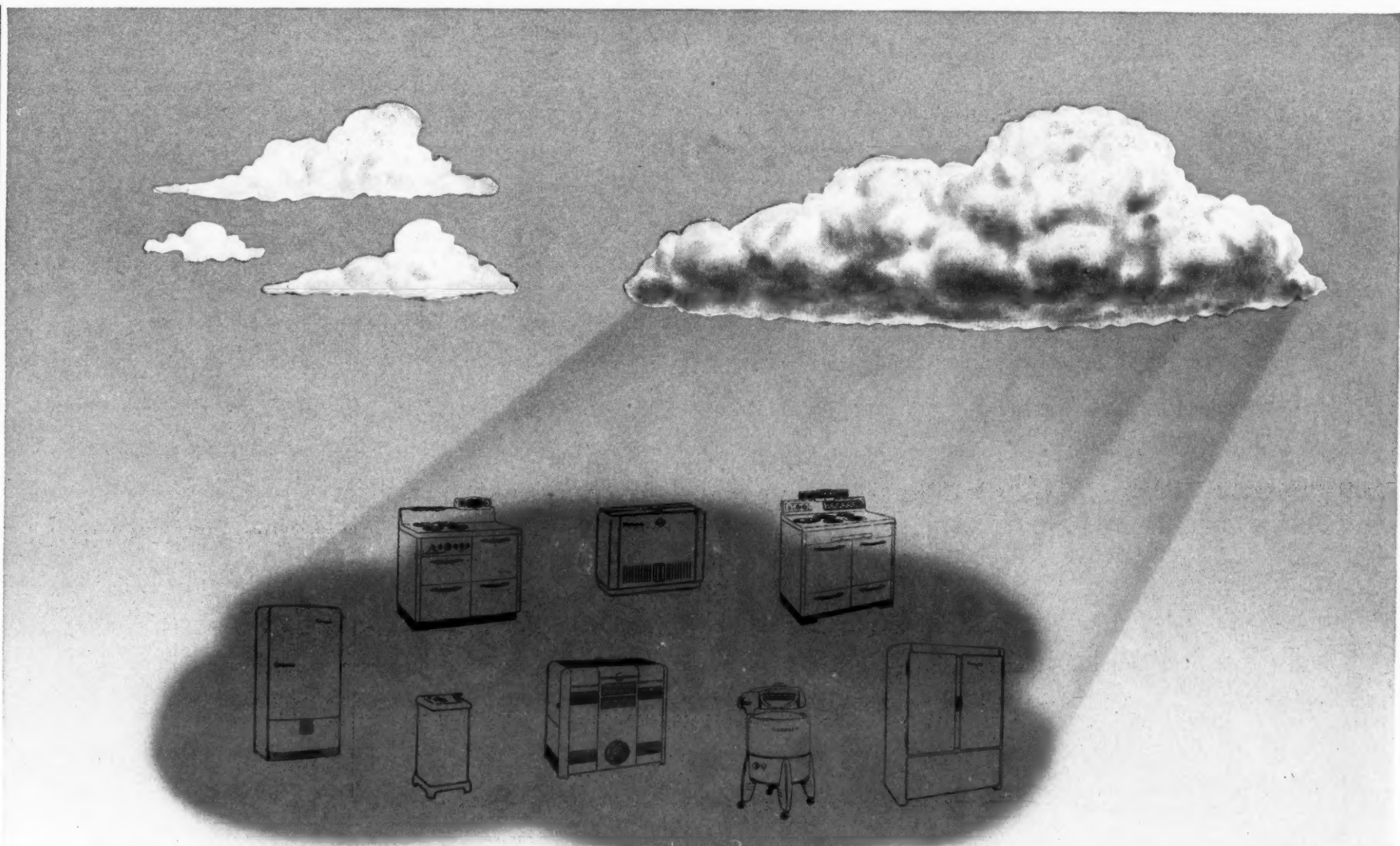
## Frank Hughes Is Dead, Pioneer In Commercial

JERSEY CITY, N. J.—Frank W. Hughes, president of Electric Products, Inc., Jersey City, and the Frank W. Hughes Co. of Pittsburgh, died recently, the victim of a heart attack. He was 65 years of age.

The company which Mr. Hughes formed with two of his sons here was a pioneer distributorship in commercial refrigeration and air conditioning equipment, handling the York Ice Machinery Corp. line.

One of the first in the industry to foresee the needs of concentrating on the type of business that fitted into the Defense and then the War programs, Mr. Hughes guided the activities of his firm toward cooperation with these programs. At present the firm is engaged in supplying the mess hall equipment for the new Camp Joyce Kilmer, Stelton, N. J.

Two of the five sons who survive him are Paul and Richard Hughes who will carry on with the Electric Products distributorship.



## Silver Linings, Inc.

When war comes many things to which we have been long accustomed have a way of going temporarily under a cloud.

In the Norge plants today those superb precision machines that turned out the Norge Rollator mechanism are converted to precision work of quite another nature.

We know you have heard that countless other plants and machines have undergone similar conversions. That is why dealers lack many of the things they normally sell. That is why the public is denied many of the things it normally would buy.

All this is a part of the determined buckling down to see to it that these valued things which have gone under a

cloud do not suffer a total eclipse. Only by so buckling down can we insure the better days to come.

Our great war effort has but one aim. Only through winning can we preserve the way of life that enabled the rank and file of our people to have these things that temporarily they must do without.

We must insure that we will have them back. Only by devoting every energy to winning can we hasten the day when such organizations as Norge can again resume leadership in planning further contributions to home health, comfort and economy.

Today, allied with industry as a whole, Norge is busily fashioning a silver lining for this cloud of war.

# NORGE

DIVISION • BORG-WARNER CORPORATION • DETROIT • MICHIGAN

ROLLATOR REFRIGERATION • GAS RANGES • WASHERS • ELECTRIC RANGES • HOME HEATERS • COMMERCIAL REFRIGERATION





# Supply of Smaller Appliances For the Trade May Last To '43

## Order Will Stop Production, But Permits Assembly of Some Material-on-Hand

WASHINGTON, D. C.—The rather complex order issued last week by the WPB which sets rates of production on most electrical appliances from now to May 31 and then halts production of such items except to fill high priority orders, has been the subject of both "trade" and "official" interpretations.

Most of the opinion in the trade is to the effect that the order may possibly result in the production of enough appliances to carry merchants right through the Christmas holiday season in the appliances affected, which are electric ranges, heaters, and table appliances. They reason it thus:

Under a previous order the use of nichrome wire, which is an essential heating element for toasters, grills, and similar appliances, had been halted as of March 31. Also, the use of vital metals for plating such as nickel, chrome, and copper was scheduled to end March 31.

But whereas the WPB had specified the rate for the use of nichrome wire, no like restriction had been placed on plating materials, with the result that manufacturers had pushed the plating of appliance shells, on the chance that they might get an extension on the use of nichrome wire.

The order issued last week seems

to take care of this, as it specifies that the use of critical materials in the manufacture of some 50 appliances be stopped immediately, "except" those in process of manufacture at the moment the order was issued. This apparently means that manufacturers can go ahead and complete the assembly of shells, nichrome wire, and cord stocks which had been built up.

However, the order imposes some further restrictions, particularly with respect to nichrome wire, which may prevent some manufacturers from reaching their full quota which as set by the order is 25% of all the appliances by value that they turned out last year, or roughly 1½ times the average monthly rate for 1941.

Producers, however, are not allowed to consume nichrome wire at this rate. The order specifies that they may use from their stock not more than 15% by weight of the wire consumed in 1941, which is slightly less than the 1941 monthly average. Where possible, however, one manufacturer may buy nichrome wire from another manufacturer who is willing to sell it.

The official release from the government explaining the order carries the following information:

"Between now and May 31 some

200 concerns that normally produced approximately \$60,000,000 worth of appliances annually, may produce appliances at a rate of approximately 1½ times their rate of production in 1941, though without the use of critical materials prohibited by the order.

"After May 31 they must halt production of all appliances except to fill orders or contracts bearing preference ratings higher than A-2.

"The production of replacement parts is not affected.

"The order (L-65) affects such common household appliances as electric toasters, waffle irons, flat irons, roasters, grills, table stoves, portable heaters, food mixers, juice extractors, percolators, dishwashing equipment, dry shavers, hair dryers, permanent wave equipment, hair clippers, cigar and cigarette lighters, and heating units for new electric ranges, water heaters, and radiating heaters.

"Electrical appliances are defined in the order as meaning 'any domestic or commercial appliances which have as functional parts electric heating elements of a total rated wattage of not more than 2,500 watts, or powered by an electrical vibrator or electrical fractional horsepower motor.' The order also applies to heating units of any wattage to be incorporated in electrical appliances or in any new domestic electric range. It does not apply to heating units already in use.

"The order specifically states that it does not apply to the following:

laundry equipment, vacuum cleaners, refrigerating and air conditioning equipment, commercial dishwashing equipment, fans and electric heating pads, record-players, oil furnaces, vending and gaming machines, and other electrical items not customarily classified as domestic or commercial electrical appliances. For the most part these items are covered by orders previously issued or by orders about to be issued.

"The prohibition on materials is as follows:

"Effective immediately, no manufacturer may put into process any pig tin; or any alloy steel, copper or copper base alloy, or aluminum that was not processed beyond the first stage when the order was issued.

"Beginning April 1, no nickel may be used for nickel plating.

"The provision as to production between now and May 31 is as follows: During that period of two months and one or two days, each manufacturer may produce electrical appliances having a total factory sales value of up to 25% of the total value of the appliances produced by him in 1941, provided that such appliances do not contain more than 15%, by weight, of the amount of electrical resistance material such manufacturer used in 1941.

"For example, if a manufacturer's 1941 production amounted to \$100,000, he may produce \$25,000 worth of appliances between now and May 31, provided that the \$25,000 worth of appliances do not contain more than 15% of the quantity of electrical resistance material he used in 1941.

"Electrical resistance material means ribbon or wire in which either nickel or chromium or both are used to create electrical resistance for the development of heat.

"The order contains additional restrictions on the use of electrical resistance material. It requires each manufacturer to:

"(a) set aside sufficient electrical resistance material to fill all orders bearing an A-10 or higher rating;

"(b) set aside and hold as reserve for future disposition by WPB 15% by weight of the balance of such material;

"(c) set aside, at his option, enough such material to complete appliances permitted under the order;

"(d) set aside, at his option, a reserve for replacement parts not to exceed 1½ times the amount of such materials he used for replacements in 1940;

"(e) set aside all remaining electrical resistance material for future disposition by WPB, except that he may sell to other manufacturers such quantities as are needed by them to complete production of their quotas.

"An inventory restriction prohibits a manufacturer from accepting delivery of more materials than are necessary to produce the appliances permitted him under the order.

"The order does not restrict the manufacture of replacement parts."

## Text of Order For Many Appliances

TITLE 32—NATIONAL DEFENSE  
CHAPTER IX—WAR PRODUCTION

BOARD  
Subchapter B—DIVISION OF  
INDUSTRY OPERATIONS

PART 1130—ELECTRICAL APPLIANCES  
GENERAL LIMITATION ORDER L-65  
The fulfillment of requirements for the defense of the United States has created a shortage in the supply of electrical resistance material and other materials for defense, for private account and for export; and the following Order is deemed necessary and appropriate in the public interest and to promote the national defense:

Section 1130.1—GENERAL LIMITATION ORDER NO. L-65.

(a) Definitions. For the purpose of this Order:

(1) "Electrical Appliances" means

(i) any domestic or commercial appliances which

(a) have as functional parts electrical heating elements of a total rated wattage not in excess of 2,500 watts, or

(b) are powered by an electrical vibrator or electrical fractional horsepower motor, and

(ii) heating units (of any wattage) to be incorporated in electrical appliances or in new domestic electric ranges.

"Electrical Appliances" include articles listed in Schedule "A" attached hereto, but that list is not intended to be exhaustive and all appliances coming within the foregoing definition are to be considered "Electrical Appliances" for the purpose of this Order, except the following: laundry equipment, vacuum cleaners, refrigerating and air conditioning equipment, commercial dishwashing equipment, fans and electric heating pads, as well as record-players, oil furnaces, vending and gaming machines, clocks, motion picture projectors and other photographic equipment, and other electrical items which are not customarily classified as domestic or commercial electrical appliances.

(2) "Manufacturer" means any person who manufactures parts for electrical appliances as well as any person who produces finished electrical appliances whether or not he manufactures any parts therefor.

(3) "Factory Sales Value" means the aggregate value of shipments of electrical appliances at regular manufacturers' selling prices.

(4) "Electrical Resistance Material" means material to be incorporated in electrical appliances in the form of ribbon or wire in which either nickel or chromium, or both, are used to create electrical resistance for the development of heat.

(b) General Restrictions.

(1) From this inventory of electrical resistance material on the effective date of this Order, each manufacturer shall (i) first, set aside sufficient electrical resistance material to fill all orders on hand on said date bearing a preference rating of A-10 or higher:

(ii) next, set aside and hold as a reserve for future disposition by the War Production Board 15% by weight of his balance of such electrical resistance material (This reserve shall be composed, if possible, of "A" grade round wire containing approximately 80% nickel and 20% chromium, but if sufficient stocks of "A" wire are unavailable the balance of the reserve shall be composed of "C" grade round wire containing approximately 65% nickel, 15% chromium, and the balance iron);

(iii) next, at his option, set aside sufficient electrical resistance material to complete the electrical appliances, the production of which is permitted under the terms of subparagraph (b)(4);

(iv) next, at his option, set aside a reserve of electrical resistance material for replacement parts for electrical appliances not to exceed one and one-half times the amount of such materials he used for replacements in 1940.

(Concluded on Page 7, Column 1)

# How can YOU tell whether or not an insulation is

# WATER REPELLENT

## very easily...MAKE THIS BAT TEST!

• Select square sections of several fibrous insulation materials, including Dry-Zero, to use as test samples. Strip them of any covering material. Fill your wash basin with water. Float one section of insulation, other than Dry-Zero, on the surface. Then with your palm outspread, bat the insulation under the water six or eight times. Bat it with sufficient force so that it is completely submerged. After six or eight times, the test sample will be almost completely saturated. Now pick it up and spread the fibres. You will find that the water has penetrated to the interior, making the whole section soggy, compact, and heavy, impairing its heat-stopping ability.

Apply the same test to the second and third test sam-

ples. Each one will respond in about the same manner.

Now take the test sample of Dry-Zero Insulation. Bat it under the water six or eight times, just exactly as you did the others. Each time Dry-Zero will rise to the surface buoyant as when you first placed it on the water! Now take it out of the water. The tiny water drops on the surface shed almost instantly. Open up the Dry-Zero sample by spreading with your thumbs as illustrated to the left, and you will be amazed to find no water has penetrated. Dry-Zero is still fluffy, bone-dry, and capable of rendering its original heat-stopping efficiency.

Dry-Zero Corporation, 222 North Bank Drive, Chicago; or 60 E. 42nd St., New York.

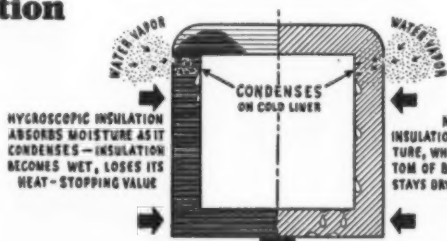
# DRY-ZERO Insulation

IS THE ONLY ONE THAT WILL NOT BECOME SATURATED AND FINALLY SINK

### why YOU need a Water-Repellent Insulation

The drawing to the right illustrates the difference between hygroscopic and non-hygroscopic (water-repellent) insulation. It's plain to be seen how moisture robs hygroscopic insulation of its heat-stopping efficiency and of the very life of the material. Properly installed, non-hygroscopic Dry-Zero Insulation retains its high thermal efficiency ("k" factor of 0.24) for the lifetime of any insulated unit.

In addition, Dry-Zero Insulation is uniquely free from settling, rotting, disintegration, and fungus growth.



**Originators of the Sylphon BELLOWS**

... And World Leaders in its development and application to such Refrigeration and Air Conditioning requirements as:

- Thermostats
- Shaft Seals
- Packless Valves
- Pressure Switches
- Vent Valves
- Expansion Joints
- Damper Regulators, etc.

**THE FULTON SYLPHON CO.**  
KNOXVILLE, TENNESSEE



## Text of Appliance Order (Cont.)

(Concluded from Page 6, Column 5)

times by weight the amount of such material used for such purposes in 1940; and

(v) finally, set aside all remaining electrical resistance material for future disposition by the War Production Board, except that a manufacturer may sell to other manufacturers additional quantities of electrical resistance material needed by them to complete production of electrical appliances permitted them under the provisions of subparagraph (b)(4).

(2) During the period from the effective date of this Order to May 31, 1942, inclusive, no manufacturer in the production of electrical appliances shall

(i) put into process any tin in pig or block form;

(ii) use any alloy steel, copper or copper base alloy that was not processed beyond the first blanking stage on the effective date of this Order; or

(iii) use any aluminum that was not processed beyond the first blanking stage or case in final form on the effective date of this Order.

(3) During the period from April 1, 1942, to May 31, 1942, inclusive, no manufacturer shall use in the production of electrical appliances any nickel for plating.

(4) During the period from the effective date of this Order to May 31, 1942, inclusive, no manufacturer shall produce electrical appliances (except under orders or contracts bearing preference ratings of A-10 or higher)

(i) having a total factory sales value greater than 25% of the total factory sales value of electrical appliances produced by him in the calendar year 1941; or

(ii) containing more electrical resistance material by weight than 15% of the aggregate weight of such material contained in the electrical appliances produced by him in the calendar year 1941.

(5) Effective June 1, 1942, no manufacturer shall produce any electrical appliances except in fulfillment of orders or contracts bearing preference ratings higher than A-2.

(6) The restrictions of subparagraphs (b)(4) and (b)(5) shall not be construed to limit in any way the manufacture of replacement parts for electrical appliances.

(c) **Inventory Restrictions.** No manufacturer shall receive delivery of materials in the form of raw materials, semi-processed materials, finished parts or sub-assemblies for use in the manufacture of electrical appliances in a greater amount than is necessary for completion of production of the electrical appliances and replacement parts permitted under the terms of this Order.

(d) **Records.** All persons affected by this Order shall keep and preserve for not less than two years accurate and complete records concerning inventories, production, and sales.

(e) **Audit and Inspection.** All records required to be kept by this Order shall, upon request, be submitted to audit and inspection by duly authorized representatives of the War Production Board.

(f) **Reports.** Each manufacturer to whom this Order applies shall file a report on Form PD-370 with the War Production Board within 15 days of the effective date of this Order indicating

(i) his total inventory of electrical resistance material as of the effective date of this Order.

(ii) The quantities of such material reserved by him under each of the subdivisions of subparagraph (b)(1), and

(iii) his proposed use of electrical resistance material from the effective date of this Order to May 31, 1942, as provided for under the provisions of subparagraph (b)(4).

(g) **Applicability of Other Orders.**

(1) Except as provided in subparagraph (i)(2), insofar as any other Order issued, or to be issued hereafter, limits the use of any other material in the production of electrical appliances, the restrictions in such other Order shall govern unless otherwise specified therein.

(2) During the period from the effective date of this Order to May 31, 1942, inclusive, the provisions of Conservation Orders No. M-1-a, M-6-b, M-9-c, M-21-d, and M-43-a restricting the use by manufacturers of aluminum, nickel, copper and copper base alloys, alloy steel and tin in the production of electrical appliances shall no longer apply to such production, but shall be superseded by the provisions of this Order.

(j) **Applicability of Priorities Regulation No. 1.** This Order and all transactions affected thereby are subject to the provisions of Priorities Regulation No. 1 (Part 944), as amended from time to time, except to the extent that any provisions hereof may be inconsistent therewith, in which case the provisions of this Order shall govern.

(k) **Communications.** All reports to be filed, appeals and other communications concerning this Order should be addressed to the War Production Board, Washington, D. C., REF: L-65.

(l) **Effective Date.** This Order shall take effect on the date of issuance, and shall continue in effect until revoked.

Issued this 30th day of March, 1942.

J. S. Knowlson,

Director of Industry Operations

**SCHEDULE "A"**

"Electrical Appliances" shall be considered as including the appliances listed below, but this list is not intended to be exhaustive and all appliances coming within the definitions contained in subparagraph (a)(1) shall be considered "Electrical Appliances" for the purposes of this Order:

Electric biscuit and muffin bakers, electric bottle warmers, electric bread toasters, electric broilers, electric casseroles, electric chafing dishes, electric coffee makers, electric corn poppers, electric deep fat fryers, electric double boilers, electric doughnut cookers, electric egg cookers, electric food and plate warmers, electric griddles, electric hotplates and disc stoves, electric ovens.

Electric percolators, electric roasters, electric sandwich toasters, electric steam tables, electric tea kettles, electric table stoves, electric urns, electric waffle irons, electric fireplaces, electric faucet heaters,

electric immersion heaters, electric unit radiator heaters, electric portable air heaters, electric fan type heaters.

Electric clothes dryers, electric curling irons, electric neckware and trouser pressers, electric permanent wave equipment, electric hair dryers, electric flat irons, electric smoothing irons, electric food mixers, electric domestic dishwashing equipment, electric juice extractors, electric dry shavers, electric hair clippers, electric massage vibrators, electric cigar and cigarette lighters, electric hedge clippers, electric soldering irons.

Heating units for: Electric ranges, electric water heaters, electric ironers, and electric radiant heaters.

### Mason Moves To Cleveland Office of OPA

WASHINGTON, D. C.—E. L. Mason of the electrical appliance unit of the Office of Price Administration has been transferred to the Cleveland regional office. Mr. Mason, who is a native of Ohio, has been engaged in similar work in Columbus for the last 10 years.

## OPA Establishes Regional Offices As Rationing & Price Control Grows

WASHINGTON, D. C.—As a boon to business men, a plan to decentralize War Production Board operations by establishing 13 regional offices throughout the country has been approved by WPB, it was announced last week by J. S. Knowlson, director of Industry Operations.

This new system will enable business men to get most of their questions answered on the spot, saving the time and expense of trips here. The existing 120 field offices will be allocated among the 13 regional offices for administrative purposes.

"Our plan," Mr. Knowlson explained, "is to place as much authority as possible for War Production Board operations in these new regional offices."

Other field offices now operating in 120 cities will become branch offices, and these will be administered by the regional directors.

"This will lead to more effective

coordination of the service provided to the public through these branches. All of them are now offering advisory service on priorities and contract distribution, and their scope will be enlarged as the regional plan progresses."

Making it clear that determination of policies and programs will rest with the WPB in Washington, he added that as time goes on, it is expected that more and more WPB activities will be actually directed in the field in accordance with overall WPB policy.

The cities in which regional offices will be located are: Atlanta, Boston, Chicago, Cleveland, Detroit, Dallas, Denver, Kansas City, Minneapolis, New York, Philadelphia, San Francisco, and Seattle.

Appointments of three regional directors already have been made, while others will soon be announced by Mr. Knowlson.

## G-E Donates Billboards To Boost Bond Sales

BRIDGEPORT, Conn.—In the interest of promoting the sale of U. S. Defense Bonds, General Electric Co.'s appliance and merchandise department has donated to the Treasury Department the use of a number of outdoor billboards for Defense Bond posters, according to Glenn Gundell, in charge of advertising.

## Part of Crosley's Office Force on 6-Day Week

CINCINNATI—Raymond C. Cosgrove, vice president and general manager, manufacturing division of The Crosley Corp., has announced that certain office and supervisory departments of the company's manufacturing division would operate hereafter on a six-day week basis of 48 hours, instead of 40 hours a week, to enable the company to handle its increasing war production work.

**When DRY AIR is FOG and DUST are** *Sealed in... Sealed out...*

## That's Why Refrigerated Cases Glazed With Thermopane Provide Better Display, Better Selling

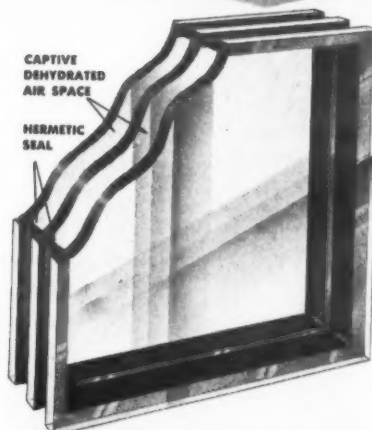
Leading case manufacturers, such as Puffer-Hubbard Manufacturing Co., are eliminating difficult service problems by installing Thermopane. At the same time, they are reducing glazing time as much as 83%.

First, Thermopane eliminates "fogging up." The captive air between the hermetically sealed panes is dry and stays dry. There can be no condensation to fog up the glass—the cause of many service calls with ordinary glazing.

Second, with Thermopane there is no chance for dust or dirt to seep in between the sealed panes. Thus another difficult servicing problem is eliminated.

Third, glazing is speeded up, because with Thermopane there is but a single glass unit to install—instead of three or more individual panes. Cleaning and polishing of inside surfaces is eliminated. The sealed units are spotless inside, ready to install. Cabinets can be glazed in one-sixth the time required by old methods.

Through the use of sparkling clear Libbey Owens-Ford plate glass, plus freedom from condensation and dust between the panes, Thermopane promotes better selling through better display. It's proving a big time-saver and good will builder for manufacturers of all types of refrigerated cases.



AN AIR-CONDITIONED SANDWICH. Thermopane is a glass unit consisting of two, three or more panes of glass, separated by 1/4 inch or 1/2 inch of captive dehydrated air, and sealed around the edges by an air-tight metal seal. Shipped to refrigerator manufacturers ready to install.

**LIBBEY · OWENS · FORD**

**Thermopane**

*"Better Seeing Means Better Selling"*

### GET COMPLETE INFORMATION

For full information about Thermopane glass, and for technical advice on its application in their cabinets, manufacturers of commercial refrigerators are invited to write Libbey-Owens-Ford Glass Company, 1338 Nicholas Bldg., Toledo, O.



# How Some Automobile Dealers Have Converted Their Facilities To War Production

## Methods Can Be Copied By Other Retailers; Group Plans Are Tried

WASHINGTON, D. C.—A series of 30 actual cases in which automobile dealers, faced with extremely curtailed business as result of the cessation of passenger car production, have converted or were preparing to convert their shops and showrooms to war work was made public today by the Office of Price Administration.

The dealer's initiative and determination are elementary prerequisites in obtaining war work, the series indicates. The examples could be paralleled by appliance dealers who may be forced into some such measures.

Material for the illustrations given was accumulated by OPA in the course of its relations with automobile dealers. In making the cases public, OPA emphasized that it cannot advise dealers on contracts nor answer questions concerning problems of conversion nor answer inquiries regarding the availability of war contracts or subcontracts.

There are other government agencies set up to assist in this work, including the Contract Distribution Branch of the War Production Board, which has 120 field offices located in the centers of population all over the nation, and the Ordnance district offices of the War Department.

The fallacy that all war work requires precision tools and skilled labor has discouraged many dealers

from the conversion idea but the series shows that more simple, less mechanical operations, when surveyed and studied properly, can be performed by many auto dealers. But in nearly all cases the assistance of industrial engineers and legal counsel is called for.

Engineering advice is available at the field offices of the Contract Distribution Branch. Subcontracting exhibits, on view to all interested in manufacturing war items, are on display in some of the regional offices. Here the dealer can obtain considerable information as to what is needed in the war effort and often will be surprised to find he has facilities for assembly of a simple product.

Small dealers, confronted with limited assets, will find the series on "pools" of interest. Cases of pools of small dealers, which in some instances are city wide in effect, already in operation and competing for war contracts because of their united financial and facility strength, are illustrated.

The series also reveals that auto dealers can, when properly equipped, produce precision tool products as well as other machine shops. In one such plant, three months in operation, not one rejection was made.

The series is divided into three general classifications: (1) conver-

sions which did not require precision tools and which were less mechanical in nature; (2) conversions or collective efforts to convert by the pooling together of facilities, funds, manpower, of several dealers; (3) conversions which required precision tools and skilled labor. Each case is subdivided, wherever possible, to show the area in which the conversion took place, space used, and available, equipment needed and purchased, and personnel required for the new operations. The cases, in which names and addresses and specific military information are eliminated, are as follows:

### NON-MECHANICAL OR NO PRECISION TOOLING

#### PRODUCES WELDED FRAME

**Location**—A Philadelphia dealer, in a discussion of national problems with an industrial client was encouraged to attempt a small welding job, which eventually resulted in more work in simple welding operations. Firm now uses 40 welding operations in producing a frame for a prime contractor manufacturing a self-propelled bomb-loading truck. The firm is one of 28 working for the prime contractor.

**Space**—Currently using a 20 x 30 ft. area curtained off from the rest of repair shop, which is still being used for service.

**Personnel**—Two shop employees took a refresher course in electric welding and began operations. One salesman took welding course and is

satisfactorily handling his new job.

**Equipment**—Equipment costs were small. Vises, hand tools, hoists of shop, now being utilized in production in addition to second hand planing machine, two turret lathes, four drill presses, and one radial drill.

#### ASSEMBLY JOB, USING WOMEN

**Location**—On Long Island, N. Y., a dealer sought war work which would not require installation of heavy machinery. Through many interviews with customers, this dealer discovered a prime contractor who was lacking space for the assembly of his product. Discussions as to the ability of an auto dealer to assemble the device, which is used in planes, led to a trial.

**Space**—Situated in a large, well-lighted modern building, area in which war work is being performed was formerly a large salesroom. Because of large floor area in shop still available, dealer is seeking more assembly contracts.

**Equipment**—Assembly operation comparatively simple, necessitating small investment in work benches, lighting equipment, and small tools such as used in jewelry stores.

**Personnel**—In all, 30 employees working on project, most of them unskilled women.

#### TRAINING SCHOOLS FOR MECHANICS

**Location**—A Columbus, Ohio, dealer surveyed possibilities of using his facilities in non-automotive operations and soon realized there was a shortage of skilled machinists in the area. A former NYA trade school instructor planned a school for the training of machinists and the dealer accepted.

**Space**—Without disturbing his display, repair, and service areas on the first floor the dealer sub-divided storage area on second floor into two modern classrooms and a machine shop.

**Equipment**—Found, through salesmen contacts many idle but serviceable second hand machines in the area and bought these for \$8,000. Invested another \$2,000 in promotion, administration, and building improvements.

**Personnel**—One general school manager, who had formerly managed a chain of business colleges, and four trade school instructors obtained from industrial plants, formed the nucleus of faculty for school. Car salesmen were used to sell course and to enroll students. School equipped to train 100 every six weeks at fee of \$100 each. Shop mechanics are used to operate machines for minor sub-contract work. Dealer assured now of good labor supply and will hire best students for his own sub-contract work which will be allocated space in basement when needed.

#### KIT ASSEMBLY JOB

**Location**—Wilmette and Evanston,

Ill. Wilmette dealer obtained sub-contract for assembly of repair kits for army.

**Space**—Inadequate at shop, accordingly rented new and larger quarters in Evanston.

**Equipment**—Mostly 90% assembly work, machinery investment comparatively trivial.

**Personnel**—Unskilled labor mostly.

#### PRODUCING SHOP EQUIPMENT

**Location**—A Chicago dealer saw a possible shortage of heat-treating furnaces used in the war effort in the production of aluminum and brass.

**Space**—Dealer converted an auto reconditioning, paint, and repair shop at rear of his agency.

**Equipment**—Largely an assembly welding operation but costs of metal require strong financial resources.

**Personnel**—Many men from own shops used. Mechanics worked on overhauling some of new equipment, learned same and are now working them.

#### POOLING

##### SHELL FUSE ASSEMBLY

**Location**—Pittsburgh area. At a meeting, Jan. 12, 350 dealers listened to Major James Hood Miller, chief of the Facilities Division of Procurement Service, Pittsburgh Ordnance District, who outlined procedure necessary to obtain war work and advised them to receive whatever possible guidance from government agencies, retain production engineers and concentrate on obtaining sub-contracts from prime contractors. This conference resulted in a collective effort organized at Washington, Pa.

**Type**—Washington, Pa., group, guided by a chief of the survey section of the facilities division of procurement service, obtained contract to assemble a type of shell fuse, a simple manufacturing operation.

**Equipment**—Very little machinery needed that wasn't already available in the shops. Material available on open market, making costs easy to figure. One dealer secured sub-contract and allocated work to other dealers in section.

**Personnel**—Unskilled and mostly women.

##### ALL-CITY POOLING

**Location**—Lincoln, Neb.

**Type**—Auto dealers are pooled and cooperating in city-wide pool of other industries under name of Lincoln Industries, Inc. Dealers to be allocated assembly work. One of dealers on board of directors of pool.

##### DEALERS PUT UP CAPITAL

**Location**—Kansas City, Mo. Dealers, through association, working with Contracts Distribution Board

(Concluded on Page 9, Column 1)

## Conserve MANPOWER AND MATERIALS

Defense production and the heavy drain on manpower for the Army are two very important factors to consider in laying out refrigeration and air conditioning installations.

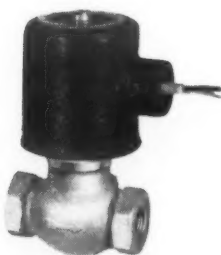
Such installations must function with a minimum of service, for capable service men will be fewer as the Army grows.

Replacement of ineffective equipment throws an unnecessary added load on production machines needed for turning out military supplies.

It is therefore a patriotic duty to choose refrigeration valves, controls and accessories which have proven their dependability, effectiveness and long service. No refrigeration equipment can surpass Detroit Valves and Controls under such specifications.



No. 673  
Thermostatic  
Expansion Valve



No. 683-3  
Solenoid Valve



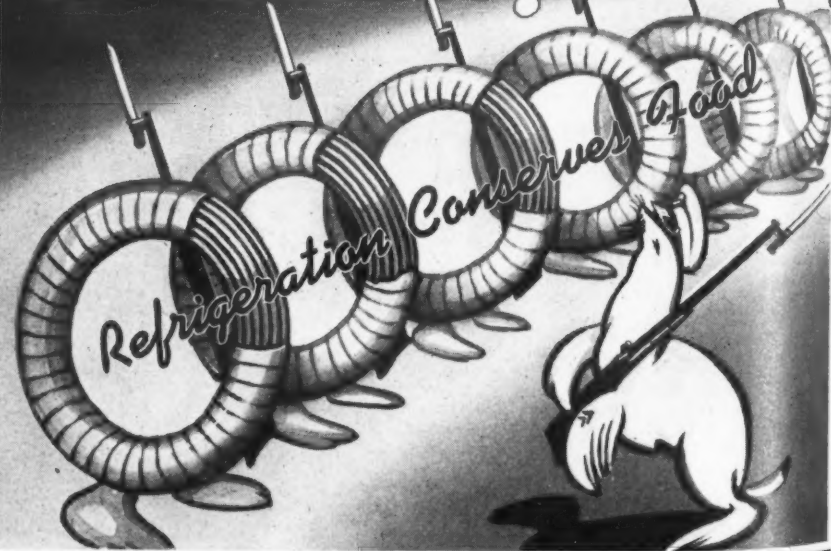
No. 450 ZL-1  
Temperature Control

**DETROIT LUBRICATOR COMPANY**

General Offices: DETROIT, MICHIGAN

Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, Montreal, Toronto, Winnipeg

## PENN TUBING... for defense!



**PENN BRASS & COPPER COMPANY, INC.**  
POWELL AVE. ★ ERIE, PA.  
Seamless Brass and Copper Tubing



## Auto Dealers Use Own Equipment Plus Ingenuity To Procure War Contracts

(Concluded from Page 8, Column 5)  
 officer, on possibility of obtaining assembling contract for gas masks.  
**Type**—Twenty-eight dealers have pooled \$5,000 each and retained services of a former manager of an auto assembly plant as a production manager.

### CORPORATION IS FORMED

**Location**—Denver, Colo.  
**Type**—Sixteen members of Denver Auto Dealers Association have formed the Denver War Industries, Inc. They have subscribed \$28,000 for the purchase of machinery, tools, and administration costs. All members of dealer's association are eligible to buy stock and receive work when obtained. Group has met with WPB's Contracts Distribution Board. Facilities have been surveyed and inventory reviewed by appropriate government agencies.

### PRECISION TOOL WORK

#### GOT A-1 ON MACHINERY

**Location**—Hartford, Conn. dealer, only one of community who converted. Hartford Ordnance district officers were cooperative and helpful.  
**Space**—Partitioned off 1,800 feet of display room. Production began March 16 on small subcontract.  
**Equipment**—Purchased some second hand machinery but obtained A1-1 priority rating which enables him to purchase new and needed machinery. Invested \$15,000 in equipment.  
**Personnel**—Five tool makers, but more will be hired as anticipated subcontracts for \$40,000 work materialize.

### SECOND-HAND MACHINES FOUND

**Location**—Springfield, Mass. dealer interested in conversion potentialities of his plant interested parent company and was given strong financial backing.  
**Space**—Installed banks of fluorescent lighting around 3,800 feet of floor space.  
**Equipment**—Had no machines or tools for type of manufacture available at start, but through information passed on by business acquaintances, was able to pick up second hand machines. One needed lathe was found in the basement of an industrial firm where it had been laid aside for 15 years although used but six months. In purchasing equipment, the services of a trade school instructor were used. Original machinery investment was \$7,300, but this has grown to \$22,000. Orders to date about \$20,000 with \$40,000 in "the mill."  
**Personnel**—Started operations with three lathe operators on March 11 but now has 16 employed, including eight toolmakers, two gauge makers, three general mechanics, two novices, and a practical superintendent. Expects to start night shift. Has subcontracts from six prime contractors and expects more. Has obtained expert assistance from Hartford Ordnance District officers. No rejections on any of completed work. Shop mechanics sent to night school and in six weeks completed machinist courses.

### SUBCONTRACT ON NAVY WORK

**Location**—An average Wilmington, Del. dealership, interested in doing something which would substitute for income lost by car sale restrictions.  
**Space**—Presently using 61 x 73 floor space and have more of shop space available should the need arise.  
**Equipment**—At the start of subcontract for prime Navy contractor added power saw and two lathes to regular shop equipment. Three lathes, two shapers, a planer, medium power milling machine, drill press, and vertical boring mill have since been purchased but equipment more than satisfies present production needs.  
**Personnel**—All shop's mechanics working as result of venture.

### SMALL TOWN DEALER

**Location**—Bergenfield, N. J. dealer.  
**Space**—Shop and service rooms of dealer.  
**Equipment**—To the normal shop tools and machines, two turret lathes, power saws, power press, and a drill press were added, to be used in production of brass sockets.  
**Personnel**—Since March 12 all of the shop employees and several others are used on the job.

### USES OWN EMPLOYEES

**Location**—Poughkeepsie, N. Y.  
**Space**—Dealer had two buildings in adjoining villages. Transferred his car operations to one end and is now using the other in the production of a gun part for a prime contractor.  
**Equipment**—This dealer had been advised not to attempt war production on the ground that machinery would be too difficult to obtain. However, dealer acquired second hand but serviceable drill press, capping machines, power and hand mills.  
**Personnel**—Twelve men, some from firm's own shops, now at war work.

### FINISHING OPERATIONS

**Location**—Chicago, Ill.  
**Space**—A small building in the rear of agency which formerly was

an auto reconditioning shop is now used to finish three surfaces on a stainer body—a subcontract from a manufacturer of Navy work.

**Equipment**—Purchased second-hand lathes before starting work.  
**Personnel**—Own mechanics in overhauling second-hand machines learned how to operate them and are now used in the war work.

### BECOMES STEEL FABRICATOR

**Location**—Denver, Colo.  
**Space**—Dealer had two showrooms and buildings. Made a steel fabricating plant from one.  
**Equipment**—Much of equipment was purchased second hand. Used in production of angle iron clips for trucks and steel door and window frames. A steel fabricator joined dealer and contributed machinery and technical assistance.  
**Personnel**—Employees of both partners at work on war items.

### TABLE AND FRAME ASSEMBLY

**Location**—New York, N. Y.  
**Space**—Large building adequately lighted.

**Equipment**—Some investment in new machinery.

**Personnel**—A few of his skilled employees are now working with others on small subcontract turning out wooden table tops and assembling steel legs and frames of tables. Some work on a metal tank top. More work sought for sheet metal men.

### \$1,000,000 CONTRACT

**Location**—An Ithaca, N. Y. dealer, who early in the car curtailment program saw the need of finding some other use for his facilities, rented a one story building for a manufacturing operation after a discussion with a prime contractor in his neighborhood.

**Space**—An area 35 x 50 feet, in which he produces steel punches used in cartridge making machines.

**Equipment**—Scouring the area, the dealer was able to buy necessary lathes, some of them old and which had to be rebuilt but which have proved serviceable. Invested \$25,000 in the equipment. However, he has contracts now for about \$1,000,000 yearly of this item, and he has se-

cured an A1-1 priority rating which is enabling him to get new machines.

**Personnel**—Twenty-five persons employed including all of his clerical force, three shop mechanics, two salesmen, and a sales manager. The mechanics and salesmen attended a local trade school and are doing their new work satisfactorily. Most of remaining personnel, including five older men, also attended trade school. Sales manager attended trade school and is now assistant production manager. Personnel now turning out \$45,000 production weekly.

**Note:** This dealer interested in survival of dealers elsewhere and claims his operation is comparatively simple when proper equipment and workers are available. A Courtland, N. Y. dealer came to him for advice and as a result of the interview the Courtland dealer was introduced to one of the prime contractors and is now similarly engaged in production of the item.

**Space**—Using his shop space.

**Equipment**—Was able to get old lathes and had mechanics overhaul them. Invested about \$25,000. Is turning out about \$130,000 work monthly.

**FIRST WIN THE WAR**  
*America must win this war. The task is great. It demands total effort. Today and as long as needed our man-power, resources and facilities must be devoted to building those implements that will help bring victory. Let's win this war as quickly as possible - and completely!*

**AFTERWARDS**  
*When complete victory has been won General Electric will again create and build those appliances that add so much to our American way of life.*

**IN THE MEANTIME**  
*Take good care of the electric appliances you now own. If they should need repairs call your General Electric Dealer. He will help make what you now have last until we can again build the new things you will want.*

**GENERAL ELECTRIC**

*This is Our story, this is Your story*

*This advertisement will appear in Life magazine, May 4th and the Saturday Evening Post, May 9th*



## 'Concentration' Gets 90% of Sales on Priorities

Things To Find Out, Dealer Says, Are Mainly 'What's Doing,' 'What's Needed,' and Then 'Who's Buying' - - Lists Variety of Orders

By Phil B. Redeker

DETROIT—Some commercial refrigeration dealers would probably be very satisfied if they did 50% of their volume on direct defense priority business, but a certain dealer—who thinks he ought to remain anonymous because some of his installations involve some pretty confidential operations in War Products plants—has done 91 plus % of his volume that way since December and soon hopes to have it up to 100%.

There's no magic formula for getting such business—other than concentration on the market. He says that he might resolve his methods into three general steps:

1. Find out "what's doing" (what new government projects are being planned in the territory, and what plants are starting out on War contracts).

2. Determine what's needed (the possible and probable markets for refrigeration or air conditioning equipment).

3. Find out who is going to place the order.

The determination of just who is going to place the order involves two factors—which of the agencies or private concerns involved in the project that will place the order for the refrigeration equipment, and the particular individual who will have the

authority to place the order.

"It doesn't take a lot of investigation to find out just who is running the job," the dealer explained, "but the thing to remember is that what you found in one place won't be the case at all in another similar situation."

Cited as an example of this, was the experience of a firm which sold refrigeration equipment to three very similar types of arms producing plants. One contract was let by the company which owned that particular plant, the second contract was let by the contractor in charge of constructing the plant, and the third contract was placed by the Army Purchasing Office for the area.

### PURCHASING AGENT? NO

"In many cases today the purchasing agent is merely the man who 'makes out' the final papers on a sale," the dealer pointed out. "Often some engineer or production chief may be the man from whom you actually secure the order."

Among the priority business which the dealer has secured are the following kinds of orders:

A very large installation for cooling vast quantities of water hourly for use in "slushing over" and cooling metal used in War Production

work. It is part of a vital metal tempering process.

Installations of drinking water equipment for new factories or plant additions—one of these jobs being a central circulating type system of over 60 tons in size, another involving more than 100 individual coolers.

Test equipment for laboratories—simple water bath jobs but sometimes involving very close temperature control.

### PLANT HAMBURGER STAND

A hamburger concession within the confines of the plant property, in which a large order of standard refrigeration equipment was installed.

There is no reason for the average dealer to be frightened off from installations involving the use of refrigeration in industrial production processes because of the engineering problems involved, the dealer with "90% priorities business" declared.

Most of the jobs he has encountered have involved only an elemental type of refrigeration system, and even in the big job which he did for the metal working operation he found no particular difficulty.

"The engineers for the company that purchased it figured and figured and we helped them with all they knew, and then they finally threw away the figures and set a guess as to the probable total heat load—and added a comfortable margin for safety," he explained.

### UNION DEMANDS HELP

One factor that is spurring the use of water coolers in industrial plants is the demands being made by representatives and committees of the labor unions, it has been found. Since the unions believe that one of their functions is to seek "better working conditions" in the plant, they often seize upon lack of or shortage of drinking water facilities and make a point of it.

In selling water cooler installations to industrial plants it is well to follow the Nema recommendations on the number of fountains that should be installed for a given number of workers of a certain type, the dealer advocated, or to follow the "rule of thumb" calculation of one fountain per every 100 people or radius of 100 feet of occupied floor area.

The dealer stated that he had encountered no trouble in getting priorities from any of these industrial customers, even in the case of the hamburger concession. The plant purchased the equipment for this concession, even though it is to be privately operated.

He hasn't encountered the type of job yet where the proprietor of an establishment across from an expanding War Production plant will find it necessary to add to its refrigeration equipment. It is questionable, he believes, that the plant's priority rating could be used for such purposes. A PD-1A setting forth the facts in the case fully might be the more correct procedure.

The dealer believes that a certain amount of system is necessary in following the many types of leads afforded by the stepped-up industrial program.

He has made use of a work sheet developed by his district manager. This work sheet consists of 8 1/2 x 11 inch sheets punched to fit a ring binder. Across the long side of the sheet on one side are several lines to be filled in.

### WORK SHEET HELPFUL

The first line asks the following information:

"Project (or plant) .....  
"Priority No. ....  
"Location ....."

The above information must be obtained by contacts with government departments, by watching newspapers and trade papers, consulting advance building reports, and by all the various types of contacts with contractors and other sources that are part of the salesman's run of duty.

There is a line for the name and address of the "owner" and his or its (if a corporation) address and a line for "type of plant." Then there are the important lines for "owner contact," "engineer contact," and "general contractor" contact. As these are progressively filled out they work down to a line for the "buyer."

Several lines are then given over to "Equipment specified" (in rough detail only).

Another group of lines is given over to "specifications" with the sub-headings:

"To be written  
"To be issued.  
"Bids due."

Back of the sheet is ruled off for a listing of "call dates" with lines for "remarks" behind each.

## Midwest Adds Plant For Manufacturing Parachute Flares

GALESBURG, Ill.—The Midwest Mfg. Co. was to begin production of parachute aircraft flares April 1, having received a contract from the Chicago Ordnance District of the War Department in January. Production will be gradually increased until the completion of the contract.

Construction has started on the new buildings for the pyrotechnic plant to be known as Midwest Ordnance on the 40-acre tract of land purchased by Midwest.

Midwest is also working on several other government war orders, including indicator floats for the Navy and refrigerators for the Army, Navy, and Air Corps.

As the number of items made of sheet metal used by the government is small in proportion to the total defense business, it may be necessary for Midwest to install some additional equipment for different types of work than it is now doing, company officials stated.

## Adaptability Marks Puffer-Hubbard '42 Commercial Cabinets

GRAND HAVEN, Mich.—Fifteen models of commercial cabinets have been introduced for 1942 by Puffer-Hubbard Mfg. Co. Models range in size from 30 to 87 cu. ft. capacity, and are designed for adaptability to practically all uses of this type of equipment.

All models are available in a variety of door styles and interior arrangements to suit varied requirements. Smaller models, for example, may be had with two, three, or four doors, either solid or glass; and larger models are furnished with seven or eight doors, solid or glass. Glass doors have three thicknesses of Thermopane, hermetically sealed.

Cabinets are all- porcelain, and are equipped with the patented "Grad-U-Matic" air flow and circulation system which is claimed to maintain uniform temperatures in all sections of the cabinet, with minimum drying out of foods. Blower motors are hermetically sealed.

Interior light is also standard on all cabinets, as are adjustable shelves, which are of heavy tin-plated wire. Three inches of insulation is used. Hardware is chrome plated, and door latches are designed for the use of padlocks, if desired.

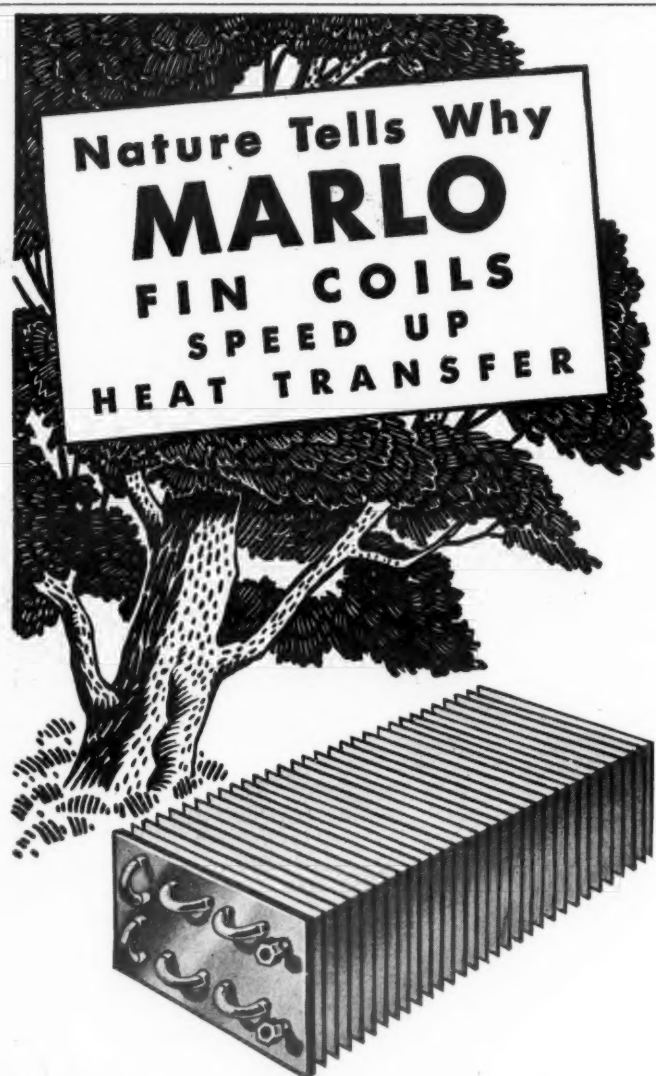
Ice maker coils are available for all models as an alternative to the blower coil cooling system. Units up to 45 cu. ft. in size also may be equipped for self-contained operation. In these models the unit compartment is built into the cabinet base.

## Hoover Urges Blower Unit Standards

PHILADELPHIA—Herbert Hoover of the Fedders Mfg. Co. discussed "Air Movement in Refrigeration" at the recent meeting of the Philadelphia Section of the A.S.R.E., and Dean C. Seitz of York Ice Machinery Corp. gave a demonstration and lecture on "Refrigerating Carbonated Beverages."

Mr. Hoover stressed the importance of locating coils so the greatest K factor is obtained through proper direction of circulating air over the coils. He also suggested that the society endeavor to establish a definite standard rating method for "blower" units.

**For Defense**  
**CORDLEY**  
INDUSTRIAL  
**WATER COOLERS**  
CORDLEY & HAYES  
452 FOURTH AVE.  
NEW YORK



Why does a tree have leaves? For efficiency, not for beauty. Leaves increase the surface through which the tree gets water and air. Without leaves, a tree would die.

The fins on Marlo Coils are like the leaves on a tree. They enlarge the surface through which the heat is transferred. This speeds up the process of heat exchange. That's one of the many reasons why Marlo Heat Transfer Equipment is preferred where efficiency counts. Ask Uncle Sam!

"MARLO MEANS  
HEAT TRANSFER EQUIPMENT"

★ ★ ★  
**MARLO**  
COIL COMPANY  
ST. LOUIS, MO.

## Drop-Forged Crankshafts In All Par Models!!!

All PAR compressors are equipped with drop-forged steel crankshafts... precision machined, case hardened, ground and lapped to a mirror-like bearing surface. Yes, PAR compressors are designed and built with painstaking craftsmanship... just like a fine automobile engine.

Par refrigeration models are engineered as complete units... not just a group of sub-assemblies bolted together. That's why, when you install a PAR, you can be secure in the knowledge that you are giving your customers maximum efficiency at minimum operating costs.

**PAR**  
Refrigeration  
Equipment

See your jobber's display of PAR equipment... or write the factory for your copy of the FREE PAR CATALOG—a manual for service engineers!

**MODERN EQUIPMENT CORP., DEFIANCE, OHIO**

★ ★ ★ **FOOD** — THE FIRST LINE OF DEFENSE — **★ ★ ★**  
CONSERVE IT WITH REFRIGERATION!



# Text of Orders Freezing Retail Prices on Stoves, Washers, and Radios

**Editor's Note:** Text of the OPA order setting price maximums on electric refrigerators was published in the April 6 "Bulletin Issue" of the NEWS. Information on this page gives essential parts of the texts of similar orders on other major appliances.

## Stoves (all types)

### Section 1356.21. Maximum Resale Prices for Stoves.

(a) On and after March 30, 1942, to and including May 28, 1942, regardless of any contract, agreement, lease, or other obligation, no distributor or dealer shall sell, offer to sell or deliver any stove at a price higher than the maximum price. The provisions of this Section shall not apply to sales or deliveries of stoves to a purchaser, if prior to March 30, 1942 such stoves have been received by a carrier, other than a carrier owned or controlled by the seller, for shipment to such purchaser.

(b) The maximum price for any model of new stove shall be the highest net price for which such model was sold, or contracted to be sold, by the same seller on March 19, 1942, to a purchaser of the same general class. If there was no such sale, the maximum price shall be the highest net price at which such model was sold, or contracted to be sold, by the same seller on the most recent date prior to March 19, 1942, to a purchaser of the same general class.

Section 1356.22. **Less than Maximum Prices.** Lower prices than those set forth in Temporary Maximum Price Regulation No. 13 may be charged, demanded, paid, or offered.

Section 1356.23. **Conditional Agreements.** No distributor or dealer in stoves shall enter into an agreement permitting the adjustment of the prices to prices which may be higher than the maximum prices provided in Section 1356.21, in the event that Temporary Maximum Price Regulation No. 13 is amended or is determined by a court to be invalid or upon any other contingency. **Provided,** That, if a petition for amendment under Section 1356.28 has been duly filed, and such petition requires extensive consideration, and the Administrator determines that an exception would be in the public interest pending such consideration, the Administrator may grant an exception from the provisions of this Section, permitting the making of contracts adjustable upon the granting of the petition for amendment. Requests for such an exception may be included in the aforesaid petition for amendment.

Section 1356.24. **Evasion.** The price limitations set forth in Temporary Maximum Price Regulation No. 13 shall not be evaded, whether by direct or indirect methods, in connection with an offer, solicitation, agreement, sale or delivery of or relating to stoves, alone or in conjunction with any other commodity or by way of commission, service, transportation, or other charge, or by alteration of any discount, premium, allowance or other privilege, or by tying-agreement or other trade understanding, or otherwise.

### Section 1356.25. Records and Reports.

(a) Every distributor or dealer making sales of stoves in the regular course of trade or business, between March 30 and May 28, 1942, shall keep for inspection by the Office of Price Administration for a period of not less than one year, complete and accurate records of each sale, showing the date thereof, the name and address of the buyer, the prices received, the make, model, and quantity of stoves sold.

(b) Persons affected by Temporary Maximum Price Regulation No. 13 shall submit such reports to the Office of Price Administration as it may, from time to time, require.

Section 1356.26. **Notices to be Posted.** Every dealer shall post in a conspicuous place on the premises where stoves are offered for sale a legible notice setting forth the make, model number, and maximum price under Temporary Maximum Price Regulation No. 13 of every model of stove offered for sale on such premises.

### Section 1356.27. Enforcement.

(a) Persons violating any provision of Temporary Maximum Price Regulation No. 13 are subject to the criminal penalties and civil enforcement actions provided for by the Emergency Price Control Act of 1942.

(b) Persons who have evidence of any violation of Temporary Maximum Price Regulation No. 13 or any price schedule, regulation or order issued by the Office of Price Administration or of any acts or practices which constitute such a violation are urged to communicate with the nearest field or regional office of the Office of Price Administration or its principal office in Washington, D. C.

Section 1356.28. **Petitions for Amendments.** Persons seeking modification of any provision of Temporary Maximum Price Regulation No. 13 or an adjustment or exception not provided for therein may file petitions for amendment in accordance with the provisions of Procedural Regulation No. 1, issued by the Office of Price Administration.

Section 1356.29. **Replacement by Regulation.** Temporary Maximum Price Regulation No. 13 may be replaced by a permanent maximum price regulation or order issued under the Emergency Price Control Act of 1942, which upon issuance shall have the effect of revoking Temporary Maximum Price Regulation No. 13.

Section 1356.30. **Definitions.** When used in Temporary Maximum Price Regulation No. 13, the term:

(a) "person" includes an individual, corporation, partnership, association, or any other organized group of persons or legal successor or representative of any of the foregoing, and includes the United States or any of its political subdivisions, or any agency of any of the foregoing;

(b) "stoves" mean stoves of the type commonly used in the household, camps, or trailers, for cooking or heating purposes (irrespective of the fuel or power used) except (1) those intended to be built into or permanently attached to the premises, and (2) electric stoves under 2½ kw.;

(c) "distributor" means a person, other than a manufacturer, who sells stoves in the regular course of trade to dealers;

(d) "dealer" means a person, other than a manufacturer, who sells stoves in the regular course of trade to consumers;

(e) "consumer" means a person purchasing for use rather than resale;

(f) "model" means any stove offered for sale as a distinct item.

Section 1356.31. **Effective date.** Temporary Maximum Price Regulation No. 13 (Sections 1356.21 to 1356.31 inclusive) shall become effective on March 30, 1942, and shall, unless earlier revoked or replaced, expire at 12 o'clock midnight May 28, 1942.

Issued this 23d day of March, 1942.  
John E. Hamm,  
Acting Administrator

## Radios, Phonographs

### Section 1356.151. Maximum Prices for Radio Receiving Sets and Phonographs.

On and after March 30, 1942, to and including May 28, 1942, regardless of any contract, agreement, lease, or other obligation, no distributor or retailer shall sell, offer to sell, or deliver any new radio receiving set or phonograph at a price higher than the maximum price. The provisions of this section shall not apply to sales or deliveries of radio receiving sets or phonographs to a purchaser if, prior to March 30, 1942, such radio receiving sets or phonographs have been received by a carrier other than a carrier owned or controlled by the seller, for shipment to such purchaser.

(a) **Current Models.** The maximum price for any current model of radio receiving set or phonograph shall be the highest net price for which such model was sold or contracted to be sold by the same seller on the 19th day of March, 1942, to a purchaser of the same general class. If there was no such sale, the maximum price shall be the highest net price for which such model was sold or contracted to be sold by the same seller on the most recent date prior to March 19, 1942, to a purchaser of the same general class.

(b) **New Models.** The maximum price for any new model shall be a price equal

to the cost of such model to the seller, plus the maximum percentage of mark-up applied by such seller on March 19, 1942, to the most nearly comparable model then offered for sale by him to a purchaser of the same general class.

Section 1356.152. **Less than Maximum Prices.** Lower prices than those set forth in Temporary Maximum Price Regulation No. 14 may be charged, demanded, paid, or offered.

(Sections on conditional agreements, evasion, records and reports, and enforcement, are similar to those for ranges.)

### Section 1356.160. Definitions.

(a) When used in Temporary Maximum Price Regulation No. 14, the term:

(1) "person" includes an individual, corporation, partnership, association, or any other organized group of persons, or legal successor or representative of any of the foregoing;

(2) "manufacturer" means any person regularly engaged in the manufacture or assembly, and sale, of radio receiving sets or phonographs;

(3) "distributor" means a wholesaler, jobber, or any person, other than a manufacturer, who sells radio receiving sets and phonographs in the regular course of trade to purchasers other than ultimate consumers;

(4) "retailer" means any person other than a manufacturer, distributor, wholesaler, or jobber, who sells radio receiving sets and phonographs;

(5) "radio receiving set" means any of the following, alone or in combination with a record-playing device: home receiving sets, portable receiving sets, automobile receiving sets, television receiving sets, facsimile receiving sets;

(6) "phonograph" means any device for the playing of records by the use of electrical amplification;

(7) "model" means any radio receiving set or phonograph sold as a distinct item;

(8) "current model" means a model first offered for sale on or before March 19, 1942;

(9) "new model" means a model first offered for sale after March 19, 1942.

(b) The definitions set forth in subparagraphs (5) and (6) of paragraph (a) of this section shall not include any

equipment primarily designed for commercial, police, military, or naval use or for use in aircraft or merchant marine.

Section 1356.161. **Effective Period.** Temporary Maximum Price Regulation No. 14 shall become effective on March 30, 1942, and shall expire at midnight on May 28, 1942, unless earlier revoked.

## Washers & Ironers

### Section 1380.151. Maximum Prices for Domestic Washing Machines and Ironing Machines.

(a) On and after March 30, 1942, to and including May 28, 1942, regardless of any contract, agreement, lease, or other obligation, no distributor or dealer shall sell or deliver any domestic washing machine or ironing machine at a price higher than the maximum price, and no person shall agree, offer, solicit, or attempt to do any of the foregoing. The provisions of this section shall not be applicable to sales or deliveries of domestic washing machines or ironing machines to a purchaser, if prior to March 30, 1942, such domestic washing machines or ironing machines had been received by a carrier, other than a carrier owned or controlled by the seller, for shipment to such purchaser.

(b) The maximum price for any model of domestic washing machine or ironing machine shall be the highest price for which such model was sold by the same seller on March 19, 1942, to a purchaser of the same general class. If there was no such sale, the maximum price shall be the highest price for which such model was sold on the most recent date prior to March 19, 1942, on which such a sale was made.

Section 1380.152. **Less than Maximum Prices.** Lower prices than those set forth in this Temporary Maximum Price Regulation No. 12 may be charged, demanded, paid, or offered.

(Sections on conditional agreements, evasion, records and reports, notices to be posted, and enforcement are similar to those for ranges.)

### Section 1380.160. Definitions.

(a) When used in this Temporary Maximum Price Regulation No. 12, the term:

(1) "person" includes an individual, corporation, partnership, association, or any other organized group of persons or legal successors or representative of any of the foregoing, and includes the United States or any agency thereof, or any other government, or any of its political subdivisions, or any agency of any of the foregoing.

(2) "domestic washing machine" means a mechanically operated machine used in the home for washing clothes and other household articles.

(3) "ironing machine" means a mechanically operated machine used in the home for ironing clothes and other household articles.

(4) "distributor" means any person, other than a manufacturer who sells domestic washing machines or ironing machines in the regular course of trade to purchasers other than ultimate consumers.

(5) "dealer" means any person other than a manufacturer or distributor regularly engaged in selling domestic washing machines to ultimate consumers.

Section 1380.161. **Effective Period.** This Temporary Maximum Price Regulation No. 12 shall become effective on March 30 and shall, unless earlier revoked or replaced, expire at 12 o'clock midnight May 28, 1942.

## Another Car Dealership Takes 'Deepfreeze' Line

OMAHA, Neb. — The McIninch Motor Co. here has formed the McIninch Deepfreeze Sales Co. with headquarters at 2023 Harney St. This is the second new car dealer in Nebraska to take on this line on a big scale, the DuTeau Chevrolet Co. of Lincoln having turned over the entire new car sales floor to display of the refrigeration units.

## Thoughts at a Glance



ALL Americans now realize that each of us must do more to win the war; and everybody is eager to do his extra bit to support our fighting men.

Hotpoint has gladly accepted its big opportunity to convert the machines of peace to those of war. Our three great factories have been enlarged. Production has been speeded. Our war efforts have reached such an important scale that the purchase of large additional plants has become necessary.

Hotpoint's enlarged facilities for war has launched an expansion program which will be ready to take care of vast civilian demands for Hotpoint products when the war is over.

*W. J. Turnbull*  
Vice-President



Hotpoint's New Book Will Be Advertised Nationally

"How to Conserve with Hotpoint Electric Appliances" gives valuable information to your customers. To secure widest distribution it is featured in our national advertising. Be sure to have a supply on hand. Ask your Hotpoint distributor.



## OUR Heart's IN THE WAR but our EYE is on peace

THE machines and men, the management and factories which have helped to free women from laborious housework are now enlisted to help in Uncle Sam's fight for a greater freedom. All the appliances we can build are now flowing into America's war effort. Every foot of floor space, every bit of capacity in our three big plants which is not utilized for production of our regular products is devoted to war work.

Hotpoint has also purchased a big new factory in which to manufacture war materials for our armed forces. With our heart in the war and our eye on peace we are all out for Victory. With that won, our facilities for peace-time manufacture of Hotpoint Electric Appliances will be bigger than ever.

### Hotpoint continues its advertising in National Magazines

To fit the new wartime tempo Hotpoint will continue to advertise, giving your customers essential information about the appliances they are now using. We are telling them about Hotpoint's contribution to America's war effort so they will understand why they can't get new appliances and will realize the importance of caring for their present appliances. Hotpoint's advertising continues to acquaint your public with the advantages of electric service in the home. Edison General Electric Appliance Co., Inc., 5632 W. Taylor St., Chicago, Ill.

# Hotpoint

## ELECTRIC RANGES

REFRIGERATORS • WATER HEATERS • WASHERS • IRONERS  
DISHWASHERS • DISPOSALS • ELECTRASINK • STEEL KITCHEN CABINETS

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Meet emergencies with the

# PULMOSAN

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Dept. AC, 175 Johnson St., Brooklyn, N. Y.



## Air Conditioning & REFRIGERATION NEWS

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## Refrigeration Will Help Win the War

## Rewards for the Enterprising

**B**EFORE a group of business paper editors recently Donald Nelson, WPB boss, insisted that American ingenuity could not only win the war, but save small business.

If business men are so anxious to preserve freedom of enterprise, they should engage in it themselves, he insisted.

"You can't wait for government to solve your problems—government is too busy."

The feeling on the part of many whose means of livelihood has been upset seems to be that government got them into this mess, so government should get them out of it.

Answer to that is: The WPB didn't start the shooting; Hitler and Hirohito did.

So, to every small manufacturer whose wheels are not turning because of priorities, we say: Use your ingenuity. Figure out how to make some small part of a lethal weapon with your own facilities—even if it never has been done that way before.

And to refrigerator dealers: Use your ingenuity! There's plenty of new money floating around. Sell your old customers something else!

Most appliance dealers and distributors will still be doing a good appliance business for months to come. But after their stocks are exhausted the jig is up—unless they are imaginative.

Records of one appliance manufacturer indicate that at the present dealer mortality rate the industry's retailers will be reduced 70% by the end of the third quarter!

### THOSE WHO REMAIN HAVE A BIG JOB TO DO

At first this seems an alarming

charge against the type of dealers employed by the industry, until one recalls that less than 20% of the dealers have always done the bulk of the business.

It is to this 20% that we now address ourselves. The industry needs you, and will need you especially after the war's end (which probably will come unexpectedly—and if Russia holds, unexpectedly soon).

To you top dealers, we say "it's time now to plan your new business enterprise."

You've already considered service. You should know by now whether your service department can carry you through the war.

A few of you are going great guns as commercial refrigeration dealers. Those of you who have discovered the rich industrial applications market have found a gold mine, and know it. It's not too late for others to get in on the ground floor of this enormous enterprise.

But for those dealerships which do not have available trained technicians either for service or the complex installation problems of small-machine commercial applications, there are many doors wide open.

### HERE ARE SOME POSSIBILITIES FOR IMAGINATIVE DEALERS

Two weeks ago we pointed to some of these open doors. They were:

(1) Neighborhood grocery stores and meat markets, to supplant the supermarkets (whose business is threatened by the tire shortage).

(2) Neighborhood beer gardens and small night clubs (due for a tremendous boom as an outlet for bulging laborers' purses and their concurrent need for quick, convenient recreation).

(3) Locker storage—a fast-growing field. Use your remaining salesmen to solicit patronage.

(4) Sell home defense materials in areas threatened by bombing attacks. Here is a virgin field which should be covered by door-to-door canvassers selling a complete package of blackout and fire-prevention materials.

Another possibility: bowling alleys. Despite an enormous growth in the last few years, alleys are still overcrowded. And during the emergency bowling is due to benefit at the expense of golf, fishing, picnicking, hunting, and Sunday driving—all of which require good tires as a prerequisite.

Some dealers are going in for rental services on such items as floor polishers, sanders, vacuum cleaners, and paint spray equipment. The growing shortage of domestic help will call for an expansion of this type of service.

There's plenty to do for the enterprising American. Donald Nelson is right: If we want to preserve freedom of enterprise, let's exhibit it! That's true Americanism.

## Doing Business With Washington

**D**ON REAGAN, sales manager for a Benton Harbor, Mich. manufacturer, went to Washington and spent weeks trying to get a war order. He was so flabbergasted by all the barbed-wire entanglements of official red tape in the War and Navy and OPM offices that he wrote about his experiences in a front-page letter to a Chicago newspaper, signing his name.

He told about trying to interest an

## They'll Do It Every Time . . . . . By Jimmy Hatlo



OPM subhead in what his company could produce. "Talk to my secretary, while I'm reading my paper," said the official. "If it's interesting I'll cut in." It wasn't interesting and the secretary got rid of the caller by promising to "take the matter up" with her chief who was sitting 10 feet away.

Events moved fast. The sales manager was fired by his firm for spilling his story. The factory, along with thousands of others, was closed down because it couldn't make civilian goods or get a government order.

Then came the shake-up in Washington. OPM was absorbed into the new War Production Board, headed by Donald Nelson. Immediately things began to happen to some of the subheads who had held up billions in contracts.

Result: The story of Don Reagan had a happy ending, after all. One of Nelson's new regional chiefs heard of it, says "Nation's Business," the Benton Harbor firm got its order and Mr. Reagan got his job back. As long as free speech is left there is a chance to right all wrongs.

## LETTERS

### BUY A TRUCK AND QUIT YOUR SQUAWKING, ADVICE TO TIRE SEEKERS

Woody Refrigeration Service  
906 Keo Way  
Des Moines, Iowa

Editor:

HONK-HONK-HONK—This seems to be the battle-cry for most of us Americans; "Why can't I have tires?" "Why can't I have copper for motors and tubing?" And "Why can't I have a new car?"

I had a 1942 Aero sedan and I had a tire failure and I went to the tire rationing board and they said "No soap" but the board informed me I was in an essential business and that I could get tires if I had a truck. I did not rise on my hind legs and tell the board that I was an important son of a gun and that I would tell my Senator how I was being penalized by the U. S. Government.

Gentlemen, I bought a used sedan delivery with almost new tires and I have found out personally a truck is 100% better for my work. I can carry more merchandise to sell, have room to transport coils and compressors and the gold leaf sign on the panels tells the public the rest of the story.

I sold my '42 car before the "freeze" and Uncle Sam got most of the difference in defense bonds and I am buying bonds every month instead of squawking about "Why I can't have a special privilege just because I live in America."

If we Americans do not stop thinking of our "own personal status" then maybe we will be satisfied to make an application to Tokio or Berlin for work or food.

Think it over seriously and then take another look at yourself in the mirror of

patriotism and quit squawking about "I."  
B. F. WOOD

Answer: No one can argue with Mr. Wood's patriotic spirit, and his admonition to "quit squawking about 'I'".

On the other hand there is good reason to squawk and put up a fight when other industries or lines of business endeavor perhaps far less essential than refrigeration are coddled and given even things they themselves don't ask for.

The following letter from A. E. Shafer is a good case in point.

### BUT THERE ARE TIMES WHEN A SQUAWK SEEMS JUSTIFIED

Shafer Refrigeration Service  
511 E. Pascagoula St.  
Jackson, Miss.

Editor:

The plumbing industry now has its P-84, which is very broad, giving them an A-10 on repairs, and replacements of plumbing, and heating in homes, apartments, and all other buildings.

We can appreciate the importance of plumbing, and heating, but food will spoil more quickly in a warm room than a cold room, and spoiled food will make one just as sick whether eaten before or after a bath, and the loss of time, and money, as well as doctor and hospital bills, are just as great.

Plumbing is very necessary of course, but may we suggest that the preservation of food is equally important.

Mrs. X may have to ask her neighbor to store her perishables, but certainly not the loan of her bathroom; thanks to P-84.

Seriously—if rationing or limiting of metals to any particular group will aid the war effort then we are wholeheartedly for it; but why turn half the stock out to green pastures, and keep the other half in the lot without any hat?

Yours for more, and better refrigeration news.

A. E. SHAFER

### MANUAL OPENS NEW CAREER FOR A SOUTH AMERICAN

Calle 29 No. 21-27  
Manizales Dept. Caldas  
Colombia, S. A.

Feb. 12, 1942

Dear Editor:

Several months ago I asked one of the agents of Harry Alter, a friend of mine, for a book titled "Refrigeracion Domestica" (Manual No. HS-1 by K. M. Newcum) which gave me a unique service in my studies, and I can assure you that I have never, to this day, seen its equal in practicalness for the student. I have studied under several teachers and have not been able to understand them well because of their few details and manner of teaching.

And, therefore, I write you, so that you will send me announcement of other manuals on this branch of household and commercial refrigeration. I am ready to pay all mailing charges and will thank you for quoting me prices on the books which you actually have. (As of now, I only have the service manual HS-1 on domestic refrigeration.)

I can assure you that this manual has opened up a career for me which I can follow.

Some time ago I received a directory "The American Edition, 1941 D-11" in which I have seen illustrated the manual above mentioned, and its price. But I desire other manuals on commercial refrigeration, air conditioning, forced air systems, etc.

ALBERTO GONZALEZ J.

P. S. The books are to be Spanish translations.



## Keeping the 'Best Foot Forward'



Brass and Copper Sales Co., St. Louis refrigeration supplies jobber, has recently added greatly to the attractiveness of its refrigeration counter by installing new counter and trim. A flood light in the ceiling illuminates the counter. The air tube

message system station, with connections to the credit and bookkeeping departments is in the left pillar. Cash register is in the right. Adjustable steel shelving is used throughout. All possible display space is utilized.

## Refrigeration Is All-Important In the Procuring of New 'Liquid' Blood Plasma

### Advantage Over 'Dry' Type of Plasma Is Claimed

NEW ORLEANS—Electric refrigeration and air conditioning have recently made possible a forward step in medical science—a system developed here by Dr. J. W. Davenport, director of the Baptist Hospital blood plasma service, of extracting 55% protein plasma from blood, an increase of 10% over previous efforts.

Through refrigeration the blood plasma can be kept in a liquid state more readily available for immediate use than the dry amber powder of old. For this purpose a 14-cu. ft. G-E refrigerator with a temperature maintained at 3° C. is used in the hospital laboratory, while a 6-ft. G-E refrigerator mounted in a bus laboratory for mobile use is ready to prepare and distribute plasma within a 150-mile radius of New Orleans in the event of air raids.

#### LABORATORY ON WHEELS

The hospital has listed donors in 20 surrounding cities, which the laboratory on wheels can reach, manufacturing plasma in its air conditioned interior as it dispenses it. Clinics through which plasma is distributed for peacetime use are installing specially equipped home refrigerators for keeping the blood between 3 and 5° C.

Beginning to produce the blood plasma in 1939, Dr. Davenport rapidly developed the process. A completely air conditioned laboratory kept at a temperature of 78°, cooled by two 5-ton packaged conditioners, was built in 1940. Centrifuges, refrigeration, and pumps for reducing the protein plasma from ordinary blood were also installed at a total cost of \$7,000.

#### CHILLED AT 3° C.

Collected in sterile closed bottles in the air conditioned laboratory, the blood receives an anti-coagulant solution of sodium citrate and is chilled in the refrigerator at a constant temperature of 3° C.

A huge centrifuge weighing 1,000 lbs. and costing \$1,400 whirls the bottles of blood for an hour at 2,500 revolutions a minute, yielding 55% plasma. Removed from the machine, the plasma again is refrigerated and pooled with that drawn from seven to 14 other donors, Dr. Davenport explained.

Bacteriological cultures are set up in samples of each pool to detect possible contamination. If none, the plasma is filtered at the rate of 100

cc. a minute, followed by a four-hour cleansing process. The pooled blood is then refrigerated until used.

Being ready for use in such emergencies as shock, childbirth, bombing raids, and hemorrhage is the greatest value of the liquid plasma, Dr. Davenport believes. It has a definite military worth in that Army doctors now need only carry a single bottle of plasma instead of the former saline solution and dry powder.

#### KEPT MORE THAN YEAR

Liquid plasma can be kept for over a year in an ordinary refrigerator, and by chilling it in an air conditioned room while drawn and kept refrigerated, it is always ready for use at a moment's notice, according to Dr. Davenport.

The Baptist Hospital blood plasma service operates on a non-profit basis, receiving blood only from volunteer donors. Donors must be white, between 18 and 50 years of age, and give 3 cu. cent. of blood per lb. of weight up to 500 cc. The hospital now has over 20 gal. of blood drawn from 180 volunteer donors, which will supply vital plasma to 120 patients.

Each patron is charged \$5 for a transfusion if he supplies a donor to replace the plasma used, \$20 if he does not. This charge is 40% of the processing charge.

"We don't want money. We want blood," Dr. Davenport declared.

### Alter Co. Offers 'Reward' For 'M. T. Cylinder'

CHICAGO—"Wanted Mr. M. T. Cylinder for vagrancy—Reward for his return" is the attention arresting headline on the bulletin being mailed to all refrigerant buyers on the records of the Harry Alter Co. here.

The fugitive from justice theme is continued in the description of the culprits as "empty cylinders for 'Freon,' methyl, or SO<sub>2</sub>" and offering credit for money the customer has tied up in the cylinders as reward for their return—plus the far greater reward that you know that you have done your bit. If the cylinder was not bought from the Alter Co. they promise to cooperate in any way they can to help secure credit from the manufacturer for any cylinder returned to them.

# VICTORY

## for a Nation at WAR!

Depends upon your individual cooperation with ALL members of your Industry TODAY! As a member of the Refrigeration Industry serving Armed Forces and Public Health you will cooperate best by preventing misuse of present equipment and by buying ONLY parts absolutely essential to proper operation.

A-P DEPENDABLE VALVES, important as they are to the continued efficiency of Refrigeration equipment contain materials highly essential to weapons of War. Refrigeration Service Engineers will help our War effort by buying A-P Valves only AS NEEDED. This is part of OUR Victory effort, and we know the Refrigeration Industry will cooperate.

**AUTOMATIC PRODUCTS COMPANY**  
2450 NORTH THIRTY-SECOND STREET  
MILWAUKEE WISCONSIN  
Export Dept., 100 Varick St., New York City



### Both Plate & Tunnel Method of Freezing Used In F-M Unit

CHICAGO—A packaged unit that both fast freezes products and supplies cooling for the locker room in a locker storage plant has been introduced by Fairbanks, Morse & Co. here in the form of the "freeze pack" cooler.

This unit consists of a fin coil assembly, centrifugal fan, and air distributor for supplying the locker room, together with a quick-freezing compartment consisting of plate coils on which wire baskets may be placed. Since air is moved over these plates at high velocity the quick-freezing is a combination of tunnel and contact freezing.

The "freeze pack" comes in a variety of sizes that are powered by condensing units of from 1½ to 5

hp. The smallest unit, it is claimed, provides quick-freezing capacity of 400 lbs. of product at a time, and enough additional refrigeration for 150 lockers.

These units are equipped with the water-defrosting system which is said to defrost the finned coil.

In operation the air is drawn in through the inlet and up over a finned coil and then past the quick-freezing plates. The multi-blade blower in the top sends the air out through an adjustable air diffuser on the top.

### Interstate Electric Takes NRSJA Membership

CHICAGO—Newest term member of the National Refrigeration Supply Jobbers Association is the Interstate Electric Co. of Shreveport, Inc., of Shreveport, La., automotive, electrical, and refrigeration supplies wholesaler.

### St. Louis Dealer Expands As Defense Orders Mount

ST. LOUIS—Mayflower Sales Co., Norge distributor here, has purchased a three story warehouse building at 106 Dock St. here for additional storage space. The new building has 26,000 square feet of floor space and an individual railroad spur. According to Eugene Strauss, sales manager, the space will be needed to store and set up commercial refrigeration equipment for use in government defense projects and army camps near St. Louis.

#### New Gamble Store Mgr.

CASPER, Wyo.—L. A. Wilkenson, who has been associated with the Gamble Appliance Store at Billings, Wyo. for the past several years, has been appointed manager of the company's store here.

**DU PONT**  
**Artic**  
REG. U.S. PAT. OFF.  
For information about nearest source of supply, write to:  
THE R. & H. CHEMICALS DEPARTMENT  
E. I. DU PONT DE NEMOURS & CO. (INC.)  
Wilmington, Delaware  
Or National Ammonia Division  
Frankford P. O. Philadelphia, Pa.

**TO ASSURE QUICKER DELIVERIES  
RETURN EMPTY CYLINDERS PROMPTLY!**

There is a shortage of cylinders for refrigerants. If you will return your "Artic" Methyl Chloride containers as soon as empty, your deposits will be

repaid immediately—and you will prevent delays in shipments of "Artic" to your shop! Round up any empties you have now and ship them back!





# What to Check When Electric Motor Does Not Start

## Motor Troubles & Their Correction

Editor's Note: Following is part of a section on servicing motors, in a series of articles on motor construction and operation.

By R. A. Fuller,  
Industrial Engineering Dept.,  
General Electric Co.

### Complaint - -

#### B. Motor Does Not Start

#### 13. Incorrect Brush Setting

"Incorrect brush setting," on single phase motors equipped with brushes, may materially reduce the starting ability of the motor. Such motors are usually arranged so that the complete brush rigging can be rotated and then locked in position by tightening the screws, provided for this purpose, in the endshield. Index marks are usually provided on the brush rigging and endshield which should be in line with each other for the proper setting.

If a new armature has been installed the best operation may be

with these index marks slightly out of line due to minor differences between the old and new rotors. Best operation will tend to be that which shows the least tendency to hesitate, or be sluggish, in bringing the load up to full speed. Incidentally, brush raising and commutator short circuiting mechanisms are usually intended to operate at slightly above three-quarters of the motor full load speed.

Brush setting has no effect on the operation of three phase wound rotor motors as good contact with the slip rings, regardless of brush position, is the only requirement. On direct current motors the brush setting is very important, but incorrect setting will usually result in trouble from sparking rather than failure to start.

A little shifting of the brushes may make very considerable improvement in the sparking. After such an adjustment the operation should be observed with particular attention to the sparking obtained with the most common load conditions. Where occasional severe loads are to be expected, the commutation should also be checked under these conditions.

#### 14. Capacitor Failure

"Capacitor failure" may result from failure of the unit to start combined with faulty overload pro-

tection; lack of enough safety factor in the manufacturer's selection of the capacitor; or from some defect in that particular capacitor. The motor will not start the load and, with the belts removed, will have very little starting ability or fail to start altogether.

With the belts removed and the power turned on, spin the motor pulley as rapidly as possible. If the capacitor is defective the motor will then tend to have just enough power to accelerate but will develop normal power when it reaches full speed. This latter can be checked roughly by holding a board against the motor pulley. This is a rough test indicating that the fault lies in the starting winding, centrifugal switch, or capacitor.

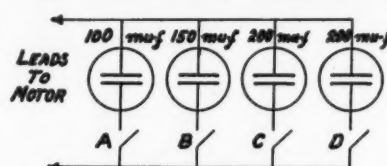
The most positive test for a faulty capacitor is to disconnect it and connect a test capacitor, of approximately the same capacity, temporarily in its place. If, with this arrangement, the motor starts the load in a normal manner, it is a definite indication that the original capacitor is defective and should be replaced.

The test capacitor can be left connected in a temporary way to maintain service until the correct replacement capacitor is obtained. If the original capacitor is marked with two values, such as 180-220 muf (or mfd), the replacement capacitor rating should be between these limits. If the original capacitor rating is a single value the rating of the replacement capacitor should be within 10% of that value. Rating of the capacitor will usually be found on a sticker on the capacitor itself, marked in the case or cap of the capacitor, or printed on the insulating covering that is wrapped around the capacitor.

A test capacitor, arranged so that various capacities can be obtained, is a useful tool. Such capacitors are available or can be made up by using several ordinary capacitors as shown in Fig. 70. These are arranged so that any or all of them can be connected in parallel. When capacitors are connected in parallel the total capacity is the sum of the capacities of the individual capacitors.

Occasionally two identical capacitors are connected in series in a motor. This combination has one-half the capacity of one of the capacitors alone. This arrangement is used to reduce the voltage on each capacitor—each one thus having to withstand only half the voltage. Care should be taken not to exceed the

Fig. 70—Test Capacitor



SWITCHES CLOSED	TOTAL CAPACITY
A	100
B	150
C	200
AB	250
AC	300
BC	350
CD	400
ABC	450
ACD	500
BCD	550
ABCD	650

Method of arranging ordinary capacitors to make a test capacitor for determination of capacities.

voltage rating of the capacitor in applying replacement and test capacitors on such a motor. The majority of capacitor motors have only one capacitor or have no capacitors connected in series.

There are other tests of capacitor failure that are not as dependable and positive as those just described. These are described in the following discussion as they can be helpful in analyzing for capacitor trouble. The weaknesses of these methods are being covered so that the limitations of each will be recognized.

The connections to the capacitor are removed. With a 30 ampere fuse in the line the capacitor is energized for approximately two seconds with 110 volts 60 cycles. If the fuse blows it indicates that the capacitor is short circuited (it is assumed that no capacitors will be encountered which will normally draw more than 30 amperes).

Assuming that the fuse does not blow, disconnect the power supply from the capacitor and quickly short circuit the terminals of the capacitor by touching a bare wire across the two of them. If the capacitor is good there will be a slight spark and the wire will tend slightly to weld itself to the capacitor terminals. The weakness of this test is that a weak capacitor, that is one which is low in capacity, may give every indication of being good. BE CAREFUL—A SEVERE SHOCK CAN BE OBTAINED FROM A CHARGED

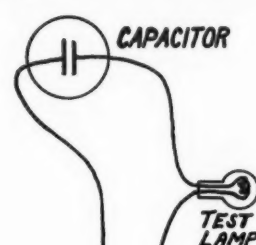
### CAPACITOR.

The same test can be made using approximately 115 volts direct current. The spark, when the capacitor is short circuited with the wire, will tend to be more intense and there will be more evidence of the welding. Some service men have been known to use the "power pack" from an old radio set to obtain direct current, where alternating current only was available, to make such tests on capacitors. The weakness of the test is still present—failure to indicate a weak capacitor.

If a capacitor has a bulged case or end cap it is quite possible that it has suffered damage from short circuit and will have to be replaced. Unless the damage obviously indicates a ruined capacitor it will be best to check it more completely as covered above.

A test lamp can be used as shown in Fig. 71 after removing all connections from the capacitor terminals. If the test lamp lights it indicates that the capacitor is either good or short circuited but definitely is not open circuited. A weak ca-

Fig. 71—Test Lamp



Test lamp connections for use in making various tests on a capacitor.

pacitor will usually not be detected—giving all the indications of a good one.

The test lamp can also be used in another way as shown in Fig. 72 without removing the connections between the capacitor and the other parts of the motor, connect the test lamp across the terminals of the capacitor. Then attempt to start the motor by applying power to the motor terminals for a moment. If the test lamp lights it indicates that the capacitor is not short circuited although it may be open circuited or weak. If the lamp fails to light the capacitor may be short circuited.

The test lamp will also fail to light if there is an open circuit in the starting winding, at the centrifugal switch or elsewhere in the starting winding circuit. This test may well be combined with the one described in the paragraphs just preceding this description. In this test it has sometimes been found helpful, in making contact with insulated wires, to stick a common pin through the wire.

### California's Electrical Bureau's In Merger

SAN FRANCISCO — "Northern California Electrical Bureau" is the name of the new organization which has resulted from the recent merger of the Northern California Electrical Bureau and the Electrical Appliance Society of Northern California.

The consolidation was effected as a war-time economy measure, bureau officials stated. Operation of the new bureau will be divided into four sections: wiring, educational, lighting, and appliance.

The bureau is located in the Furniture Mart here.

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LICENSEES IN U.S.A.: Bush, W.C. Co., Hartford, Conn.; Kramer, Trenton, N.J.

REFRIGERATION Los Angeles, Calif.

**RECORD HUMIDITY LOW TEMPERATURE EVAPORATORS**

U.S. PATENTED No. 2,219,393 CANADA No. 394,289 NEW ZEALAND No. 62,339 OTHERS PENDING

ENGINEERING, INC. California, U.S.A.



Just a lone, forgotten empty  
There is sadness in his song;  
For he's growing old and dusty—  
These are times when this is wrong!

He is willing and he's ready  
To help his Uncle Sam  
Keep shipments moving steady  
For the Country's War Demand.

Don't hold him there in hiding;  
Let's put him in the scrap  
And keep this empty riding  
'Til we've sunk the Hun and Jap.

Don't hold him there in hiding.  
Let's put him in the fight  
And keep this empty riding  
For Victory and Right.



"VIRGINIA" REFRIGERANTS  
AGENTS FOR KINETIC'S "FREON-12"

**VIRGINIA SMELTING CO.**  
WEST NORFOLK, VIRGINIA



"Good enough" is as out-dated as "business as usual"—it just isn't being done. 1942 demands that you do the best job possible—with the best materials available.

Davison's Silica Gel will help you through these troublesome times because it is the drying agent that has proved itself to be the leader in performance! You can be absolutely certain that use of Silica Gel will bring a positive end to moisture troubles—the major hazard that you must overcome in order to prolong the usefulness of your customers' refrigerators.

Why? Because Davison's Silica Gel has 1 1/2 to 2 times as much capacity as other drying agents. Its action is instantaneous. It removes acids and corrosive compounds. It will not dust nor powder. It is field- and time-proved—by manufacturers of refrigeration equipment and a vast majority of the nation's service engineers.

Start using Davison's Silica Gel today! Your jobber can supply dehydrators charged with Silica Gel or Silica Gel in bulk for refill.

**Keep 'em RUNNING WITH DAVISON'S SILICA GEL**



DAVISON'S

# SILICA GEL

Master Over Moisture

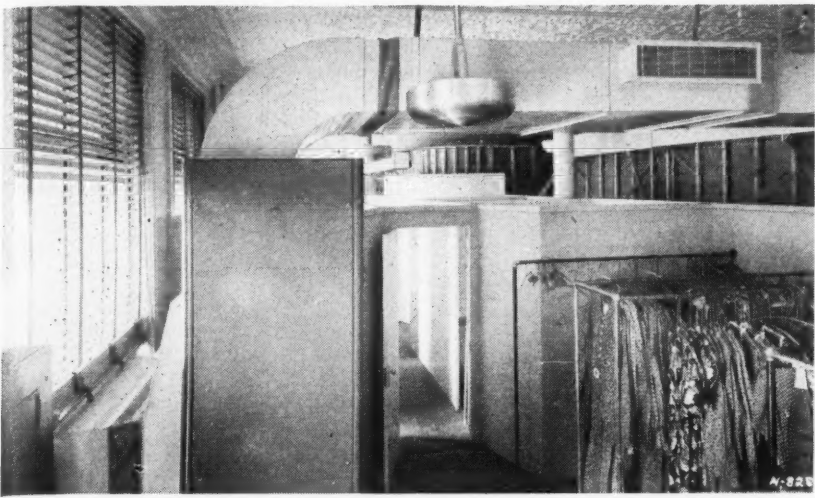
THE DAVISON CHEMICAL CORPORATION

Silica Gel Department  
BALTIMORE • MARYLAND



## Store Installs Different Type of System To Meet Problems of Design & Arrangement

## Diamond Cutters No Longer Knock Off On Damp Days By Virtue of Air Control



Unit air conditioners in stock space behind selling area on second floor of the Globe store. But first floor has a central system.

SCRANTON, Pa.—The Globe Store here, which three years ago pioneered in the use of unit air conditioners for large department store areas, has completed another step in its long-term modernization program by air conditioning its spacious first floor. This program has, of course, been interrupted by the war, but plans for this second step had been made and the equipment purchased before the present emergency began.

In 1939, the Globe store modernized its second floor, cutting off natural ventilation with ceiling-high display cases and increasing the heat load with modern high-intensity indirect lighting. The new conditions called for air conditioning, but lack of available floor space ruled out a central plant system.

An ingenious system using seven unit air conditioners strategically located in stockroom spaces was developed by T. W. Sherarts of the Scranton Electric Construction Co., General Electric air conditioning distributor in the city. The system was installed without interference with regular store activities and all equipment and ductwork was hidden. The customers see only the grilles.

### GROUND FLOOR PROBLEMS

The new ground floor installation presented an altogether different problem. There was no floor space whatever available for air conditioning equipment. Nor was there any adjoining space accessible for duct risers. The ceiling was crisscrossed by piping, structural beams, and all the numerous services always present in a large department store. This time also, the Scranton Electric Construction Co. devised the plan.

The floor is divided into three zones, each zone served by a General Electric HD-400 central plant air conditioning unit hung at the ceiling. The ducts from these units run along the beams. A combination of anemostats and grilles is so installed that a dropped ceiling can be built later if the store wishes to hide all the ductwork and equipment.

Air conditioners were located at places where inexpensive panel furring could be used to conceal them. Because of the nearness of the installation and the quiet operation of the units, however, it has been decided that there is no point in hiding the equipment.

The three conditioners are connected with a General Electric 50-hp. compressor, which is located in one of the very few spaces available in the basement. An evaporative condenser, located on the fourth floor roof, prevents excessive use of water by the system.

In a department store, air conditioning is as important in the winter as in the summer. Because of the high internal heat load caused by lighting and occupancy, it is often necessary to provide considerable cooling even when the outside temperature is below freezing. Therefore, the Globe Store has an elaborate control system to meet all contingencies.

### CONTROL SEQUENCE

The control sequence in each zone is as follows. A room thermostat controls a modulating type steam valve for heating, with a minimum supply of outside air. As the room temperature rises, the steam valve closes. With a continued rise in room temperature, the supply of outside air is increased gradually.

A thermostat control in the mixed-air plenum, however, limits the air temperature to 50° to prevent drafts and freezing of the steam coil. If the outside air is above 50° then 100% outside air can be used, unless the outside temperature exceeds 80°, at which point dampers limit the supply of outside air to the minimum. If the room temperature still continues to rise, an additional room thermostat energizes the solenoid valve in the refrigerant line to supply direct expansion cooling.

The air conditioning system on the second floor, which was installed three years ago, uses six 7½ ton and one 5-ton unit air conditioners. There are seven points of thermostatic control on the floor, giving perfect temperature control with maximum efficiency.

Four of the units are arranged with adjustable outside air supply and these are operated at night during the summer to cool this floor by bringing in the cooler night air. The only cost for this type of cooling is that of operating the fan motors in the units. In the morning when the cooling system is turned on for regular operation, the compressors rarely start for two hours because of this cooling effect.

NEW YORK CITY—When German troops invaded Antwerp and Amsterdam in the early phases of the war, the industry most damaged was that of diamond cutting—inasmuch as 34,000 diamond cutters were employed in the district. All of them gave up the trade—and with few escaping to the United States, the majority of the world's diamond cutting was transferred to New York City.

Less than 400 cutters, all in New York City, are now doing this delicate work, transforming chunks of raw carbon into finely polished gems. Largest company in the world is Baumgold Brothers, which has a staff of 80 men. The company, one of the oldest in the country, has developed two methods of stepping up production which are responsible for considerably more diamonds produced during the first few months of 1941, than in all of 1940.

One of these was development of a new type of circular saw, composed of a steel disk dipped in olive oil, on which diamond dust adheres tightly. With this equipment, it is possible to cut a diamond perfectly in less than half of the former time.

### NEW EQUIPMENT

Use of the saws has not only had a beneficial effect upon the jewelry trade, but on industry and the defense program, both crying for diamond bits, cutting tools, etc. Almost every national defense manufacturing program requires diamond

for one use or another, which Baumgold Brothers have been turning out on a 24-hour-per-day basis.

A peculiarity of the saws resulted in the second development—complete air conditioning of all diamond cutting rooms. Cutters have known for centuries that it is impossible to cut diamonds in damp, muggy weather; used to knock off for the day when rain meant that further cutting was likely to spoil expensive gems. Now Baumgold has solved that problem with the installation of a 20-ton air conditioning system, which enables cutters to keep their saws running continuously, no matter what the weather outside.

### WHERE CONTROL BENEFITS

Temperature in all cutting rooms is held continuously to 80° F., which keeps olive oil at the correct adhesive temperature for picking up diamond dust, and makes the whirling saw constant in measurement to a degree heretofore impossible. In this way, an immediate increase in production of 30% was achieved, which is likely to be increased even more because of the relatively longer periods which cutters can work without becoming fatigued.

Still another value of the air conditioning system has been developed in "cleaving" or cutting diamonds to make smaller stones or a varied type of cutting. This is done by studying the structure of the stone, picking the point of least resistance,

and tapping it with a heavy rod until it splits neatly in a straight line.

When the stones to be thus cut are kept to a constant low temperature in a separate vault in the Baumgold plant, it has been proven, they split more evenly, and with less opportunity for expensive mistakes which can remove as much as 80% of their value.

## Air Conditioning Permits Fits That Will Always Give 'Proper Restraint'

JACKSON, Miss.—The dreaded—but necessary—task of having corset fittings has been made more enjoyable for women customers of Kennington's department store where special ducts from the store's 75-ton air conditioning system cool the fitting rooms to 78°, eliminating complaints and adjustments of a costly nature and increasing sales.

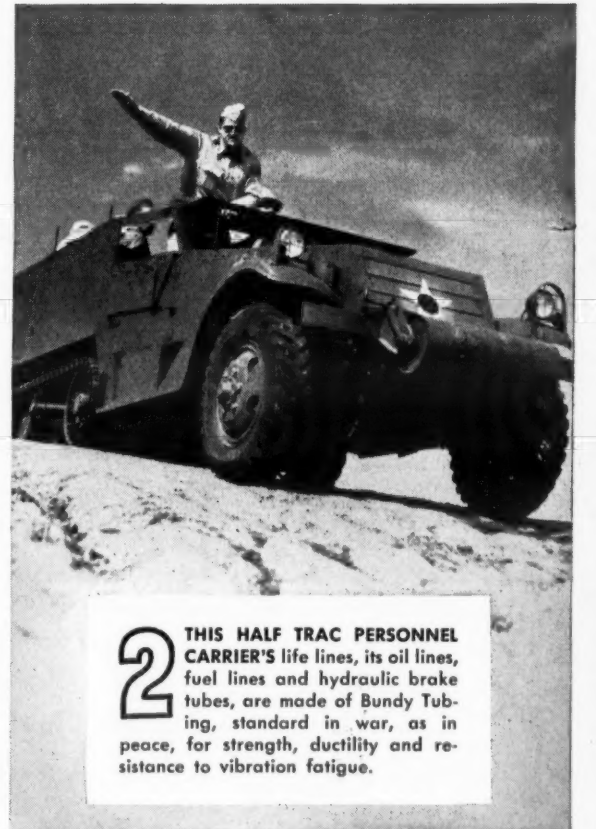
A corset fitted in a temperature warmer than it is outside does not exercise proper restraint later on, Zazel Hutchinson, corset buyer, said. Another problem taken care of by the air conditioning is that of fitting proper size foundation garments during hot weather when perspiration makes fitting doubly difficult.

Since the air conditioning arrangement was installed, women average 25% less time in the fitting room, can be fitted with garments which are more certain to give figure control over any period of the year, and are greatly less irked at acquiring a basis for good grooming, Miss Hutchinson finds.

# FAMOUS LIFE LINES



**1** ICELAND, pivot point of our life line of North Atlantic bases, is swept by hundred-mile gales such as this which caused a United States supply ship to drag its anchor in the mountainous seas off the rocky coast.



**2** THIS HALF TRAC PERSONNEL CARRIER's life lines, its oil lines, fuel lines and hydraulic brake tubes, are made of Bundy Tubing, standard in war, as in peace, for strength, ductility and resistance to vibration fatigue.

EACH day brings new uses for Bundy Tubing in military and naval equipment. As army experts develop new types of military vehicles, the automotive industry automatically turns to Bundy for brake tubes, fuel lines and oil lines.

The Ordnance Department needs magnesium parachute flares—Bundy Tubing is selected for shade rib supports. The Air Corps, Quartermaster Corps and Marine Corps order hundreds of thousands of expeditionary gasoline cans—Bundy furnishes the air vent tubes.

Mechanical parts for lamps for the Medical Corps; fuel and lubrication lines for Diesel engines for small naval vessels; antennae for Signal Corps radios; oil,

fuel and hydraulic lines for tandem rollers for the Engineers—these are just a few examples of Bundy contributions to every branch of the service.

Wherever fuel or lubricants must be carried, wherever vacuums are necessary or hydraulic pressure is transmitted—there you will find Bundy Tubing, selected for its strength, its ductility and its resistance to vibration fatigue. And in hundreds of mechanical and structural applications, where light weight and strength are essential, Bundy Tubing is a first choice.

If your war orders require tubing in or near Bundy's sizes, you should have the complete Bundy story. Bundy Tubing Company, Detroit, Michigan.

# BUNDY TUBING

ENGINEERED TO YOUR EXPECTATIONS

**BUNDYWELD** double-walled steel tubing, hydrogen-brazed, copper-coated inside and outside. From capillary sizes up to and including 1½" O. D. This double-walled type is also available in steel, tin-coated on the outside, and in Monel.

**BUNDY ELECTRICWELD** steel tubing. Single-walled — butt welded — annealed. Also furnished tin-coated outside if desired. Available in sizes up to and including 3½" O. D.

**BUNDY "TRIPLE-PURPOSE" MONEL** tubing. Double-walled, rolled from two strips, joints opposite, welded into a solid wall. Available in all Monel, Monel inside — steel outside, and Monel outside — steel inside. Sizes up to and including 3½" O. D.



**Cooling Rooms -- Any Size  
Any Shape -- Made to Order --  
Same Price as "Standards"**

LONG AND  
NARROW

AROUND BEAMS  
AND COLUMNS

IRREGULAR  
SHAPES

SPECIAL  
SIZES AND HEIGHTS

Our "SPECIALS" service paves the way for new, additional profits for Refrigeration Contractors. Don't dodge those jobs where "standard" size cooling rooms won't fit the space. Go after them "hammer and tongs," and make a double profit—your regular profit on the refrigeration machinery and an additional profit on the cooling room, because we will not sell direct. And, you render a real service to your customer, by enabling him to take advantage of every available foot of space. Make your estimates "on-the-spot" and set your own profit. Write for full information and quick-figuring price list.

**WHOLESALE ONLY**  
WE SELL ONLY TO THE CONTRACTOR!

**ALBERT H. BROMANN, JR.**  
820 NORTH CICERO AVENUE, CHICAGO, ILLINOIS



## Priorities Information

### New Changes Affect Ratings Under PRP; Simplify Procedure

WASHINGTON, D. C.—Two modifications in the use of preference ratings under the Production Requirements Plan, have been announced by A. L. Williams, Chief of the Production Requirements Branch. Both of these modifications simplify procedure and reduce the amount of clerical work involved.

In cases where a rating assigned under PRP is subsequently raised to a higher rating after appeal to the Production Requirements Branch, the applicant may notify his suppliers of the higher rating by letter instead of making out completely new purchase orders.

Another change in the application of PRP preference ratings permits a producer to make out a single order covering his requirements for the same material or product, even though he uses two or more different preference ratings which have been assigned to him.

For example, if a producer has been assigned ratings of 25% A-1-a, 25% A-1-j, and 50% A-2, on 1,000 electric motors, he may make out a single purchase order as follows:

250 motors—rating A-1-a  
250 motors—rating A-1-j  
500 motors—rating A-2

Total 1,000

This eliminates the necessity for making out separate purchase orders for each rating used. However, the purchasing order must be made out in terms of the specific quantities to which the rating is assigned, and should not be made out with percentage figures.

When several ratings are used on a single purchase order, an appropriate change must be made in the wording of the purchaser's endorsement.

These modifications of the procedure for the use of ratings under PRP are embodied in bulletins which will be sent to all producers operating under the Production Requirements Plan.

### Federal Judge Upholds Book Audit By WPB

WASHINGTON, D. C.—Authority of War Production Board agents to have access to the premises and records of a company affected by priority orders was upheld when Federal Judge John P. Barnes in Chicago issued a permanent injunction requiring the Chicago Alloy Products Co. to permit audit and inspection by government agents and to refrain from disposing of its stocks of metals until the audit is made.

The company was also perpetually enjoined from violating or further violating any regulations or orders issued by the Director of Industry Operations. This provision of the injunction would subject officials of the company to penalties of contempt of court including possible jail sentences if they are found guilty of violating hereafter any priorities orders issued by the War Production Board. The injunction order was entered with the consent of the defense counsel.

The request for the injunction, first action of its kind to be taken by the government, was made by United States Attorney J. Albert Woll and Daniel B. Britt, special assistant to the attorney general in the anti-trust division, following refusal of Ben Chernyk, president of the Chicago Alloy Products Co., to permit inspection by government agents. The company's refusal was in defiance of a formal order issued by J. S. Knowlson, Director of Industry Operations.

The government's petition for the injunction alleged that the company was negotiating transactions in scarce metals without priority sanction and was selling its products at prices in excess of the maximum prices established by the Office of Price Administration.

A temporary injunction restraining the company from selling, moving, or concealing its supplies of nickel and cadmium was issued by Judge Barnes on Feb. 13. The permanent injunction contains the same provision and in addition grants representatives of the War Production Board the right to enter the premises and examine inventories, books, and records of transactions in metals needed for war production.

## Graded Ratings Given For Utility's Repairs

WASHINGTON, D. C.—The War Production Board has issued a complete revision of Preference Rating Order P-46 which was issued last September to assist utilities in obtaining the minimum amount of materials necessary for maintenance, repair, and operation. That order assigned a blanket preference rating of A-10 to such materials.

The blanket rating of A-10 is replaced by two higher ratings. An A-2 rating is granted to deliveries of material for maintenance, repair and operating supplies for power plants and pumping plants. An A-5 rating is granted for all other facilities, such as lines, pipes, and substations.

The order also assigns a rating of A-5 to deliveries of materials to bring electricity, gas, or water to war plants or other projects—bearing a rating of A-5 or better. This does not apply to housing projects.

Line extensions to serve a new consumer are restricted to 250 feet. The original order permitted a 1,000-foot extension. Extensions begun prior to March 26, the date of issuance of this order, may be completed.

Despite this restriction, the Power Branch of the WPB announced that houses that were wired prior to March 26 or for which the foundations were completed by that date, may be served with electricity provided they are not more than 2,000 feet from an existing line and provided the utility specifies that galvanized steel wire will be used instead of copper.

This policy, which has been concurred in by the Steel branch, will also permit extension of service to a number of homes which were already wired when the 1,000-foot extension limit was imposed last Dec. 5.

## Tough Penalties For Rationing Violators Under New Law

WASHINGTON, D. C.—Willful violators of rationing orders and rationing regulations issued by the Office of Price Administration now face direct prosecution and severe penalties under provisions of the Second War Powers Act, 1942, Acting Price Administrator John E. Hamm has warned.

The Act, which became effective March 28 when signed by President Roosevelt, provides a maximum penalty of \$10,000 fine and imprisonment for one year for willful violation of priority orders of the War Production Board or of rationing orders or regulations of OPA, whether already in effect or issued in the future.

Mr. Hamm disclosed that OPA, working in close cooperation with the Department of Justice, has adopted a comprehensive plan of action for investigation and criminal prosecution of those persons who flout the rationing rules. This plan will be pursued vigorously, he said, with the object of making illicit trafficking in rationed articles an expensive business.

"Until passage of the Second War Powers Act, enforcement of the rationing program has been severely handicapped by the fact that the law provided no criminal penalties for even the most flagrant violations of rationing requirements," Mr. Hamm stated. "Dealers who had made misrepresentations to the government of facts concerning their supplies could be prosecuted for such misrepresentation under existing statutes, but the open and notorious violator could be reached only by suit to enjoin further violations."

### Aluminum Co. Works Gets Navy 'E'

PITTSBURGH—The New Kensington works of the American Aluminum Co. is to receive the Navy "E" for outstanding production of war goods, according to an announcement by Roy A. Hunt, president.

Date of the award which will make the plant the second in Pittsburgh to fly the Navy "E" has not been set. Mr. Hunt was notified of the award by Rear Admiral A. E. Watson of Philadelphia.

## Mills Novelty Employees Won This Award



Barbara Hale, recently selected as "Miss Animation," poses with F. E. "Jerry" Jernberg, Mills Novelty Co.'s refrigeration sales manager, and the first "Minute Man" flag to be awarded in the Chicago area. To obtain this flag a company must have more than 90% of their employees buying Defense Bonds on the payroll allotment plan.

## Knowlson Explains How Connecticut High Court Bolsters Price-Fixing

WASHINGTON, D. C.—J. S. Knowlson, Director of Industry Operations, has warned business and industry that orders and regulations issued by the War Production Board must be strictly followed and has explained how an official interpretation of the Board's orders may be determined.

"Official interpretations of priority orders or regulations," Mr. Knowlson said, "are issued only over the signature of the Director of Industry Operations, the General Counsel of the War Production Board, or of the Assistant General Counsel for the Division of Industry Operations."

"An explanation of an order, indicating the order's application in a particular case, may be issued by the branch or section chief or other official to whom the administration of the particular order has been assigned."

"Interpretations or explanations issued in any manner not in conformity with the above procedure are not official."

HARTFORD, Conn.—The Connecticut State Supreme Court of Errors ruled March 4 that a producer may require a dealer to sell his products at fixed prices even if they were bought for resale through a third party in a decision given in the case of Burroughs Wellcome & Co. vs. Johnson Wholesale Perfume Co., Inc.

The decision upheld the constitutionality of the State's Fair Trade Act, which is in effect in 44 other states. An injunction forbidding the defendant from selling the plaintiff's products at cut-rate prices had been issued by Superior Court Judge Ernest C. Simpson.

The high court ruled that: "The fact that the act permits the producer to fix the minimum price at which his goods will be sold by all who purchase them either directly from him or from wholesalers to whom he sells them does not essentially change the situation. The statute is not unconstitutional on the ground suggested, nor is the plaintiff guilty of inequitable conduct barring him from relief under the act because he refuses to sell directly to the defendant."



To keep the commercial refrigeration equipment of our nation in efficient operation is a war-time assignment of first line importance. It means wholesome, healthful food for military and civilian population, and the avoidance of spoilage waste.

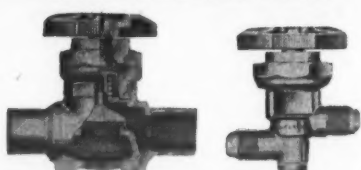
Refrigeration service men are enlisted for the duration in this vital task. And Penn is enlisted with them. In addition to our direct work for the armed forces we are prepared to furnish controls...on priority orders...for both existing and new equipment required to preserve the nation's food supply. For assurance of efficient operation depend on Penn automatic controls. Penn Electric Switch Co., Goshen, Indiana.



## Superior PRODUCTS ★ ★ ★ FOR YOUR Defense JOBS

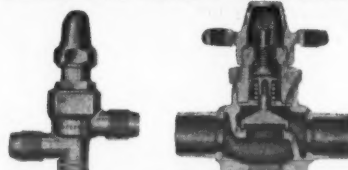
Increased refrigerated space for the accelerated production of perishable foods places a heavy responsibility upon the refrigeration industry. Shortage of metals condemns waste and inefficiency. Do your part to conserve materials. Design to produce more refrigeration per watt hour. Select equipment which requires a minimum of service. Specify SUPERIOR—the quality buy-word of the industry.

### DIAPHRAGM PACKLESS VALVES



Entire internal assembly removable for soldering or inspection. Equipped with famous pressure cup below diaphragm. Two and three way. Flare sizes 1/4" to 3/8", sweat sizes 1/4" to 3/8".

### PACKED AND PRESSURE CUP VALVES



Flare and sweat sizes 1/4" to 3/8" (two and three way) have hex seal cap. Sweat sizes 1/4" to 3/8" (globes) have wing nut seal cap. Internal assembly (all sizes) removable for sweating to valve body.

★ Refrigeration is Vitally Essential to Our National Defense Efforts ★

### CHECK VALVES



Very sensitive springs. Less than 5 ounces pressure drop. Positively will not chatter or hum. All internal parts easily removable for sweating or inspection. Sizes 1/4" to 3/8" Flare; 1/4" to 3/8" Sweat.

### LIQUID INDICATORS



With or without seal cap. Flare sizes 1/4" to 3/8", sweat sizes 1/4" to 3/8". On 1/2" sweat to 1 1/2" entire upper assembly may be removed as a unit to facilitate soldering of refrigerant lines to connections.

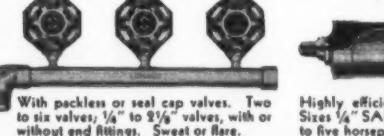
★ Refrigeration—Food Preservation and National Defense are Synonymous ★

### DEHYDRATORS



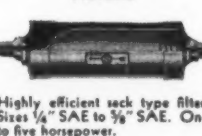
Silica-Gel or Activated Alumina. Refillable and non-refillable. 1/4" to 3/8", 1/2" to 5 H.P., 2 to 60 cubic inches.

### MANIFOLDS



With packless or seal cap valves. Two to six valves; 1/4" to 3/8" valves, with or without end fittings. Sweat or Flare.

### FILTERS



Highly efficient sock type filter. Sizes 1/4" SAE to 3/8" SAE. One to five horsepower.

★ Don't take chances with the Nation's Health—do the best job possible ★

### FITTINGS



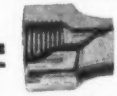
Unions, adaptors, elbows, tees, crosses, caps, etc. 1/4" through 1".

### HEAT EXCHANGERS



Unique design gives highest capacity per unit size. Sweat or Flare connections. 4500 to 9750 BTU per hour.

### FLARE NUTS



Brass and steel. Long and frost proof. Forged and bar stock.

For complete details—see your Jobber or write for catalog

**SUPERIOR VALVE & FITTINGS CO.**  
★ PITTSBURGH ★ PENNSYLVANIA ★



# Votes of Confidence!

## a message to manufacturers

**D**uring 1941, with the future of the refrigeration business clouded, and with the News warning distributors and dealers to expect the worst:



Renewal percentage of subscriptions to Air Conditioning and Refrigeration News among distributors and dealers reached an all-time high.



Long-term subscriptions from distributors and dealers — two and three year subscriptions costing \$7 and \$10 — also reached an all-time high.

**T**he important distributors and dealers — those who sell 90% of the industry's equipment year after year — look to the News for information and for leadership. They get it.

**C**ollectively, these outlets are the strongest in the business. Over 70% of them are listed by Dun & Bradstreet. Over 50% of them are capitalized at more than \$20,000, carry "Good" or "Excellent" credit ratings.

**T**hese are the distribution outlets strong enough to weather the storm ahead, to provide the nucleus of your volume after the war.

**Y**ou can maintain contact with them effectively and economically through advertising in the News.

*Air Conditioning &*  
**REFRIGERATION**



**NEWS**

*The Newspaper of the Industry*

**5229 Cass Avenue**

**Detroit, Michigan**



## Quick-Freezing Seems the One Sure Way To Hold Vitamin 'C'

### Study Shows How To Save Vital Values In Vegetables

NEW YORK CITY—Quick freezing as a valuable aid in retaining the maximum amount of nutritive qualities, especially vitamin C, in fruits and vegetables up to the time they are actually consumed has formed the basis of a study by Dr. Faith Fenton of Cornell University. "Our research with quick-frozen vegetables," Dr. Fenton declared, "has been and is largely concerned with vitamin C loss during cooking. Vitamin C content may well be taken as a criterion of quality and nutritive value of vegetables. If it is retained, so also are other attributes known as quality—that is, color, aroma, flavor, texture, and nutrients. Of all vitamins, vitamin C is most easily destroyed and no other vitamin or mineral is dissolved from vegetables more easily."

#### PROPERTIES OF 'C'

"Vitamin C, or ascorbic acid, has three properties: It cannot be stored in the body, so it must be furnished each day and perhaps each meal. It is very soluble in water and it is destroyed by oxidation. Its destruction is hastened by the presence of copper and an enzyme which has been found present in all vegetable tissue."

"The effect of copper is not important to us because we do not cook our fruits or vegetables in copper utensils, nor do we add copper to retain the color of green vegetables. The presence of the

enzyme which hastens the destruction of this vitamin is very important."

"In our first study we analyzed fresh and quick-frozen peas and cooked fresh and cooked frozen peas. The vitamin C content per given weight of the cooked fresh and the cooked frozen peas was practically the same."

"It should be explained that the fresh peas tested were grown in a garden close to the laboratory, so that it was a matter of only a little more than an hour between the time the peas were gathered and the time they were cooked and analyzed."

"If the fresh peas had been in transportation for one or more days from the point of production to the retail store and finally to the consumer, or if the peas had been allowed to stand around in the kitchen even a few hours, the vitamin C story would have been less favorable. Our studies have shown that fresh peas lose about one-third of their vitamin C content when held at room temperature for three days."

#### NO THAWING LOSS

"In quick-frozen peas we found no loss in vitamin C due to thawing them in the package. Some workers have reported a loss due to thawing. It is probable, however, that their peas had not been blanched sufficiently to inactivate the offending enzyme."

"Whether vegetables lose vitamin C during thawing or not should make no difference with our treatment of them. They are perishable when not held at low temperatures, and in order to retain vitamin C to the fullest degree they should not be thawed before cooking."

"In cooking tests on quick-frozen peas, spinach, Brussels sprouts, cauliflower, and Lima beans, the actual destruction of vitamin C was very small. However, as much as one-third of the vitamin may be dissolved in the cooking water. We have found that with the five frozen vegetables mentioned, other conditions being equal, the more

cooking water used the more vitamin C dissolved in it."

"This is one very important reason why it is recommended that cooking instructions shown on the packages of quick-frozen foods be followed most carefully. It will be noted that in these instructions a specific amount of water to be used in cooking is stated, and this is a very small amount."

"This water should not be thrown away after cooking, because of the very high vitamin content retained in it. The cooking water of some vegetables is as rich in vitamin C as is tomato juice."

"The material of the cooking pan seems to make no practical difference in either the amount of vitamin C destroyed or the amount dissolved in the cooking water. The utensils used in this study were made of enamel, aluminum, pyrex, and stainless steel."

#### COOKING IMPORTANT

"The method of cooking these five vegetables does make a difference. In this study they were boiled, steamed in two types of steamers, and cooked in one of the new pressure sauce pans."

"The vitamin C retention was highest in all the vegetables when they were cooked in one of the new pressure sauce pans. There were three possible explanations for the finding: the very small amount of cooking water used, the fact that the air was driven out of the pan so quickly, and the short cooking period."

"Since each vegetable is more or less a law unto itself, the results may not hold true for all vegetables."

"We have found in working with quick-frozen broccoli that the frost in the package is very high in vitamin C. This is just another example of the great solubility of this vitamin. If the vegetable is cooked while still solidly frozen, this frost goes into the kettle. If the vegetable is first thawed, this very potent seepage may be discarded."

#### WHICH PART?

"The part of the vegetable used also determines the amount of vitamin C furnished. We have found that the upper part of the rhubarb stalk is much richer in vitamin C than the lower part. The leaves of spinach and chard contain several times as much vitamin C as do their stems. A Chinese worker reports that of 15 vegetables analyzed the leaves of 13 contained much more vitamin C than did the stems."

"We have found that the buds of raw broccoli are much richer in vitamin C than the stalks. Interestingly enough, this condition is reversed in the cooked vegetable. Evidently during cooking, where the bud has a greater exposed surface than does the stalk, more vitamin C goes into solution. The shorter cooking time required for quick-frozen broccoli results in a greater retention of vitamin C in the bud."

#### FRUITS MORE STABLE

"Freshly gathered broccoli, kale, cauliflower, spinach, peppers, and parsley contain more vitamin C per given weight than do oranges. When actually consumed, however, oranges are probably a better source than are these vegetables, because vitamin C is more stable in acid fruits than in vegetables."

"Our challenge is to see that the maximum amount of vitamin C is retained in these vegetables up to the time they are actually consumed. The quick-frozen foods industry has been alert to this challenge, and has done much to retain the vitamin C and other qualities which nature has put into the growing vegetables."

## Farmer's 'Frozen Cupboard' Reveals Much Variety In Fresh-Flavored Stews

BENTLEYVILLE, Pa.—The McIlvaine farm homestead on R.D. 1 near here has solved the problem of food conservation plus getting the maximum in taste and vitamin content of their foodstuffs the year around by the installation of a Victor Products Corp. combination freezer and storage unit.

Mr. and Mrs. McIlvaine had the freezer installed last July in a building formerly used as a spring house. Fresh meat, fruits, and all kinds of vegetables including corn on the cob went into the unit when these products were at their best, and their goodness was sealed in by freezing at —15° F. (See list below).

Mrs. McIlvaine finds that she prefers the freezing method to canning. While the preliminary preparation of foods is somewhat the same as for cold pack canning, she has found the whole process considerably faster and easier.

Vegetables are picked in small quantities early in the day while the dew still clings to them, packaged, and placed in the freezer before the freshness can be lost. Most fruits are packed in a heavy syrup. Paper containers and cartons are used—much easier to handle than jars and cans.

Mrs. McIlvaine has found that quick-frozen vegetables cooked on an electric range in small quantities of water not only retain their color and flavor, but all the health vitamins and minerals.

There are three people fed from this storage-freezer on the 150-acre McIlvaine farm. It is not considered by them that the price of the freezer or its operating cost are out of line. The operating cost is about \$2.50 per month.

The following list of products that were frozen and stored last summer did not tax the 26-cu. ft. storage space to capacity.

- 15 qts. raspberries
- 4 qts. blackberries
- 8 qts. cherries
- 10 qts. peaches
- 3 qts. rhubarb
- 44 qts. green beans
- 30 pts. peas
- 35 pts. cut corn
- 2 qts. corn-on-cob
- 6 pts. lima beans
- 8 pts. beets
- 225 lbs. beef

### Co-op Group Formed To Save Georgia Plant

LAGRANGE, Ga.—Rather than lose their freezer locker plant, citizens of Troup county are purchasing the Whitley Frozen Food Locker System with plans to continue operation as a cooperative.

Already nearly enough has been pledged to purchase the plant, which was established by J. E. Whitley in 1939 with 500 lockers at a cost of \$50,000.

As local demand was not sufficient to keep most of the lockers rented, Mr. Whitley had decided to move the plant to Atlanta.

### Three Temperatures For Store's Own Plant

WAVERLY, Neb.—Roy E. Hamlow has installed a 170-locker refrigerated storage plant in his grocery store here recently. Temperature in the locker room is kept at —2° F., in the sharp freeze room at —10° F., and in the chill room at 35° F.



Mrs. McIlvaine selects the "makins" of a fine fresh-foods dinner—in the middle of January—from her freezer-storage unit, everything neatly packaged and labeled for quick selection. This dinner, we understand, had for its main items a 6½-lb. shoulder roast of beef, peas, corn-on-the-cob, and raspberry pie.

### Leumberger Buys Appliance Store In Sun Prairie, Wis.

MILWAUKEE—The Hayden Hardware & Appliance Store at Sun Prairie has been purchased by Louis Leumberger.

**Fulco**  
ADJUSTABLE  
REFRIGERATOR  
COVERS

Fit any refrigerator. Excellent quality covering, well padded and reinforced at edges. Reduce loss from damage in transit to a minimum by full equipment with FULCO Adjustable Refrigerator Covers.

**FULTON BAG & COTTON MILLS**  
Manufacturers since 1870  
Atlanta St. Louis Dallas New Orleans  
Minneapolis New York Kansas City, Kan.

### Yes! "DAY & NIGHT" WATER COOLERS MEET ARMY & NAVY SPECIFICATIONS

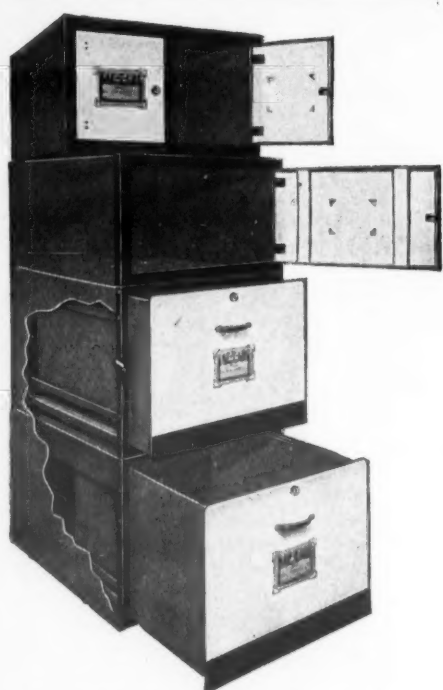
WRITE FOR YOUR COPY OF BULLETIN NO. 46

**DAY & NIGHT COOLER DIVISION**  
**DAY & NIGHT MFG. CO.**  
2320 EAST EIGHTH STREET - LOS ANGELES, CALIFORNIA  
FACTORY REPRESENTATIVES  
NEW YORK CHICAGO  
A. C. Homeyer, 682 Broadway - Marc Shantz, 565 Washington Blvd.  
DALLAS DECATUR, GA.  
Leo J. Freitas, 4408 Stanhope St. - J. E. Parker, 228 Second St.  
Warehouse Stocks at Convenient Shipping Points

Navy Type Cabinet Cooler. Other Models for service everywhere, ashore and ashore.

For 1942—most complete range of styles and sizes—12 to 79.5 cu. ft.—in the industry. New modern styling—priced for real value.

**Reach-in CABINETS**  
**Midwest Mfg. Company**  
GALESBURG, ILLINOIS



## Vitamins and MASTERbuilt Lockers

Scientists, through laboratory tests, have demonstrated the value of low temperatures in holding vitamin content. Frozen foods are good sources of vitamins; and the kinds that are good vitamin sources when fresh, lose relatively little in freezing.

Vegetables particularly must be kept cool and moist. Exposure of foods to dehydration should be avoided . . . therefore, it is important that the correct lockers should be used.

### MASTER Sets The Standard

Through the years, Master has not only developed but set a new standard in locker construction for sanitation, protection against odors, dehydration, etc. In addition, their flexibility of installation, savings in erection costs, etc. provide a definite saving to plant owners.

Complete details will be sent upon request. Write for them today!

MASTER Lockers are endorsed by and sold only through distributors of refrigeration and insulation.

MASTER REFRIGERATED LOCKER SYSTEMS, Inc.  
121 Main St. Sioux City, Iowa

Over 250,000 Masterbuilt Lockers in Use

## Watch for this Big Issue — It'll be HOT!

Air Conditioning & REFRIGERATION



NEWS

APRIL 27  
1942

### "COME TO CHICAGO" NUMBER

A PREVIEW OF THE ALL-INDUSTRY MEETING

Programs - List of Participating Companies - Forecasts

ADVERTISERS: Write today for full information



## Rebuilding Operations

### Overhaul and Reconditioning of the Norge 'Rollator' Compressor

By R. L. Walsh, Westchester Dealers Refrigerator Rebuilding Service, New Rochelle, N. Y.

**Editor's Note:** The following article on the fundamental procedure in overhauling the Norge Rollator unit was prepared by Roland L. Walsh, of the Super Refrigeration Sales & Service in New Rochelle, N. Y., which firm acts as the exclusive rebuilder of electric refrigerators in Westchester county. Articles on other types of units will probably follow.

In any shop setup for rebuilding Norge Rollator units it is a good idea to have at least one special tool known as the "capson tool" and used to pull the seal face assembly off the shaft.

This tool may also be used in pulling off pressed-on oil throwing rings from some kinds of repulsion-induction type motors.

To discharge the Norge system, which should be the first step in a rebuilding operation, back seat the head valve and then take the plug out, putting a 1/4th pipe to 1/4-inch flare fitting in and connecting a purge line. Then front seat the head valve and let the gas discharge into the drum. (As explained in the first of this series of articles on rebuilding household refrigerator units.)

When you have determined that the system is completely discharged remove the purge line and unbolt the head valve and suction valve. Remove the four bolts and nuts from the Rollator mounting and take the Rollator off of the condensing unit mountings. Be sure that the valve gaskets are scraped cleanly from the fittings.

With the Rollator on the workbench you can start to take the Rollator down by pulling off the flywheel (use wheelpuller) and then remove the seal by unbolting it and using the special tool as outlined above.

Next, take out the large hex nut on the side as this holds the blade. Take care not to lose the blade spring that comes out with it. If the spring is broken, replace it.

Unbolt and disassemble the Rollator, if possible leaving intact the oil line that is soldered on the inside. If you break this line, solder it back on.

Remove the blade and clean it by

means of the valve grinding method, making use of a very fine grinding compound. Remove the discharge valve and replace it, then grind the seat to a smooth finish with a fine grinding compound.

Be sure to inspect the very small spring that releases the discharge valve. If it is broken, replace it.

In starting the reassembly of the Rollator, place the blade in its proper position and leave the spring out until all the parts are assembled and the body bolted. Then insert the spring and put the hex nut back in its place.

Install a new seal, either a Norge bellows or a Rotary Seal, and after bolting it in, put the flywheel back into place and turn by hand to determine if it pumps properly.

This is very important, for if it doesn't pump properly, then you have placed the blade in the wrong position, or the discharge valve is not seating properly.

If it pumps in the proper manner bolt it back on the base in its original position, use new valve gaskets and a new belt, and have the right amount of fresh oil handy. Front seat the suction valve and put on a low side gauge and connect a line to suck the oil into the Rollator.

After this has been done, front seat the head valve and purge the air from the system. Then charge the system through the low side. This is a slow but sure method. Make certain that you never overcharge or undercharge a Rollator system.

If the system is the expansion valve type check the valve setting after the system has been charged. If it uses a low side float listen for the "gurgle" of the refrigerant in the float.

When the system has been charged let it cycle three or four times. If the compressor seems noisy when starting up add more oil, but not too much, because the unit will start to slug oil and it may also wind up with an oil logged evaporator.

Check to make sure that the evaporator does not defrost before cutting in. If it does, adjust the control to a higher point.

### Special Flaring Tool Makes Double-Lapped Standard Flared Joints In Steel Tubing

**DETROIT**—A special flaring tool designed for double-lap flared joints in steel tubing is being made by the Kent-Moore organization with headquarters here. This company specializes in tools for automobile service, and its flaring tool was originally designed for steel tubing used in motor cars, but can be applied just as handily to such tubing used in refrigeration work.

This flaring tool has three principal parts, the die block, flaring forming tool, and the punch ram of the tool. In operation the tubing is first placed in the die block and the flare forming tool inserted in the end of the punch ram of the tool. The ram is moved forward and pilot end of the flare forming tool is centered in the tubing. The end of the punch ram is struck a few blows with a hammer, which upsets the tubing and performs the first flaring operation.

The punch ram is then withdrawn and the flare forming tool reversed with the tapered end toward tubing. The punch ram is then moved forward with the pilot end of the flare forming tool centered in the tubing. A few blows with the hammer on the end of the punch ram neatly forms the second flare and gives the double-lap flare effect.

In the shop the tool assembly can be held in a vise, but for work in the field a clamp assembly can be provided to permit the portable use of this flaring tool.

The standard model is capable of flaring 3/16, 1/4, 5/16, and 3/8 inch o.d. tubing. Additional die block and flare forming tools for 1/2 and 7/8 inch o.d. tubing are available if desired.

The tool is made of malleable iron with heat treated, precision machined die block and flare forming tools.

had reasonable practical experience in radio or electrical work, or:

Have successfully completed at least two years of electrical, radio or communication engineering subjects at a college, university or commercial school of recognized standing and have considerable experience in one of those fields, or:

Have the equivalent of any of the above by reason of extensive practical experience in the field of radio where the applicant has been connected with the design, erection or maintenance of ultra high frequency radio transmitting or reception.

Application should be made to the Commandant, U. S. Marine Corps, Headquarters, Washington, D. C.

In this letter a statement of qualifications should be made, and information giving age, full name and complete address should be included.

## All Cork Importers Under Allocations

**WASHINGTON, D. C.**—To insure equal distribution of available supplies of cork, the Director of Industry Operations has issued Amendment No. 1 to General Preference Order M-8-a. The amendment is effective immediately.

The Amendment provides a new definition of the term "supplier" to include any person in the United States who engages in the importation, sale, manufacture or processing of cork, or in the importation of manufactured cork in finished or semi-finished form.

This will make all importers of manufactured cork subject to control and thus permit allocation of additional imports.

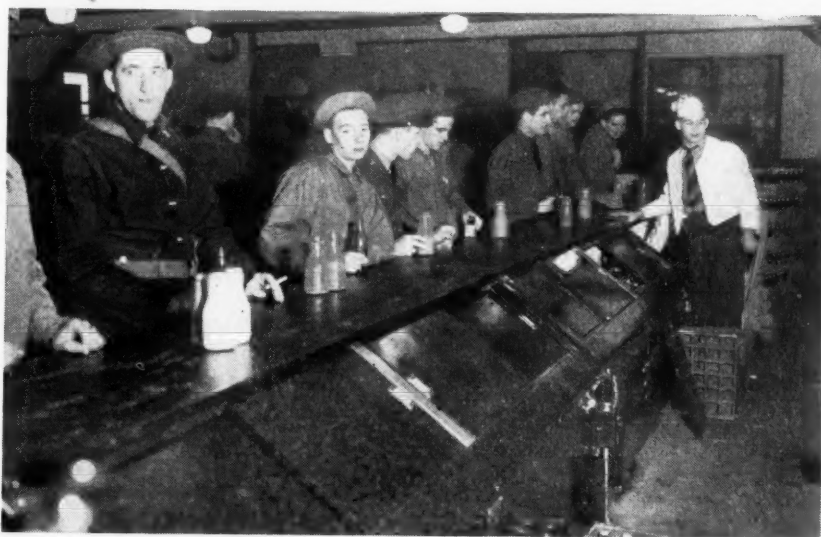
## Demand For Steel Plate 50% Over April Supply

**WASHINGTON, D. C.**—An appeal to steel plate consumers to forego all but their most urgent requirements has been voiced by C. E. Adams, chief of the Iron and Steel Branch of WPB, in a letter to users.

While plate production for April will be in excess of 850,000 tons, demand is at least 50% more than that, he said.

Mr. Adams pointed out that, while steel plates are under a complete allocation system, only the buyer knows whether or not orders for a particular schedule could be filled out of inventory or postponed until later.

## Army Prefers the 'Barnyard Cocktail'



The modern refrigerated beverage coolers installed at the Dale Mabry army flying field at Tallahassee, Fla. hold many kinds of beverages, but it is easy to see that milk is the favorite with the boys. Ideal Beer cooler cabinets were installed by Floyd Harper Distributing Co., Jacksonville.

## Weber Sales In 1941 Totaled \$3,344,057

**LOS ANGELES**—Net income for 1941 of the Weber Showcase & Fixture Co., Inc. was \$256,232, as compared with \$58,692 for 1940.

Last year's figure is equal, after dividend requirements on preferred stock, to \$1.39 each on 124,853 common shares.

Net sales the past year totaled \$3,344,057 as against 1940's mark of \$2,021,675.

## Customers To Butcher and Store In Tupelo Plant

**TUPELO, Miss.**—To allow rural customers to combine slaughtering with meat storage, Harry Hunt Grocery & Packing Co. here, combination abattoir and wholesale grocery, will construct a 350-unit refrigerator locker plant near Tupelo this spring.

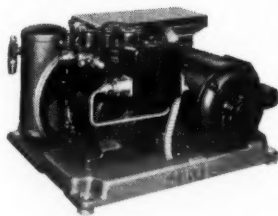
Orders for over 100 lockers have already been received, according to the company.

## Vital needs in the

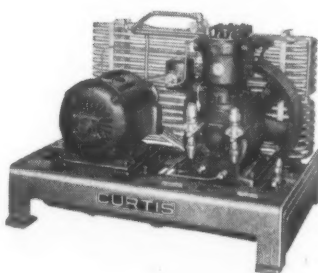
## PROGRAM FOR VICTORY

★ Food Preservation by Commercial Refrigeration

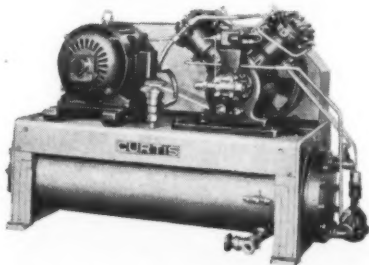
★ Industrial Temperature Control by Air Conditioning



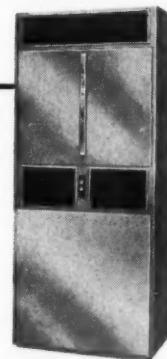
1/6 to 1/4 hp. self-contained Condensing Unit.



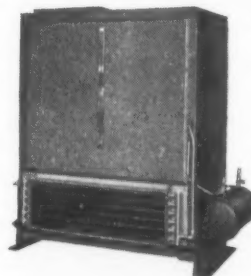
5 hp. water-cooled (counter flow) Condensing Unit. Other sizes from 1/8 to 5 hp.



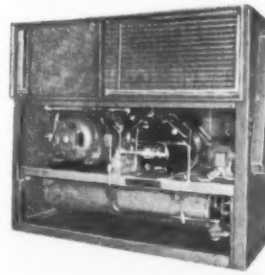
15 hp. cleanable shell and tube Condensing Units. Other sizes from 3 to 30 hp.



3 and 5 ton Packaged Type Air Conditioning Unit.



Saturated Air Condensers up to 5 tons capacity. Save 95% of water costs.



7 1/2, 10, and 15 ton Remote or Central Type Air Conditioning Unit.

To achieve Victory we must —

- Step up production
- Eliminate waste
- Increase efficiency
- Save time
- Protect health
- Improve quality
- Maintain morale

This program for Victory is more than ever possible now because of the amazing developments in the Commercial Refrigeration and Air Conditioning Industry since World War I.

Every unit in the complete Curtis line is designed and built to deliver exceptionally dependable, trouble-free, economical performance—the result of 88 years of successful manufacturing experience, advanced engineering, precision methods, and the use of the finest materials throughout.



**CURTIS REFRIGERATING MACHINE DIVISION**

of Curtis Manufacturing Company

1912 Kienlen Avenue

St. Louis, Missouri

## Marines Seek Trained Radio Technicians

**WASHINGTON, D. C.**—The United States Marine Corps needs a large number of officers with electrical background for duty in the supervision and maintenance of radio aircraft warning devices, allied radio equipment and installations, and a call to civilians between 20 and 40 years of age to apply for commissions in the Corps has been issued.

Candidates for commissions should be able to fill one of the following:

Hold a degree of bachelor of science of electrical, radio, or communication engineering or electronic physics awarded by an accredited college, or: Hold a degree of bachelor of science in any engineering subject and have



# Method of Refrigerant Distribution To Multi-Circuit Type Evaporators

## ASRE Group Hears of Design & Operating Problems

PHILADELPHIA — Problems in liquid refrigerant distribution to multi-circuit evaporators of the dry expansion type, and the means developed towards solving those problems, were outlined by F. M. MacDougall, chief engineer of Alco Valve Co., before a meeting this year of the Philadelphia section of the A.S.R.E.

Early in the testing program, said Mr. MacDougall, it became apparent that poor distribution of liquid refrigerant in top fed multi-circuit dry expansion evaporators most often is the result of a separation of the liquid and flash gas between the expansion valve and the distributor. Further testing confirmed this theory, which was kept in mind by the designers of the later type of distributors.

Fig. 1 is a schematic arrangement of a thermo expansion valve feeding an undersigned type of distributor which distributes refrigerant with

the air flowing across the warmest circuit was cooled hardly at all, rendering that portion of the coil ineffective. In the course of the test program, a distributor occasionally was found which kept the outlet temperatures within a 10° range, provided the coil was kept near full load, so a 10° F. variation was adopted as the criterion of good distribution.

An incidental feature of Fig. 1, Mr. MacDougall pointed out, is the proper and improper bulb applications for the thermo valve. When the bulb is placed on the suction header in the manner shown, it would be possible for the distributor to feed too much liquid to the lower circuit and cause floodback of liquid to the

Fig. 2—Liquid Header

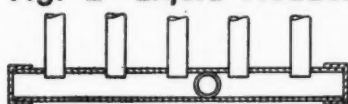
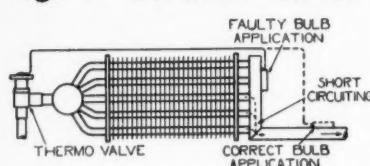


Fig. 1—Common Circuit



questionable uniformity to a multiple-circuit finned coil such as is usually employed in air conditioning systems for comfort cooling. Each circuit usually consists of from four to eight tubes instead of the single tube shown in Fig. 1. Some of the circuits invariably receive more flash gas and less liquid than others, resulting in uneven temperatures at the entrance to the suction header.

It was found, Mr. MacDougall asserted, that the temperatures at the ends of the various circuits usually came within a range of 15 to 20° F., some coils having variations as high as 35°. This obviously means that

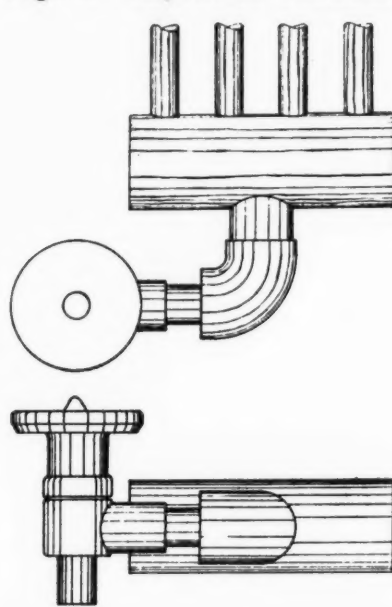
compressor. Too little liquid to the lower circuit would result in a drastic starving of this portion of the coil.

One of the early distribution means used on dry-expansion evaporators is shown in Fig. 2, which is merely a variation of the well known flooded liquid header long used (and still used) on wet expansion, or bottom fed, coils. The variation from the conventional flooded header is the extension of the vertical outlet tubes up into the header, the inlet adjusted as nearly as possible to the same level.

The theory is that the liquid is divided equally to the various circuits by running over the tops of the tubes, the flash gas taking care of itself by passing through the essential portions of the tubes. The horizontal inlet is shown as a circle.

This type of header has never worked well on dry expansion coils, declared Mr. MacDougall. However, some improvement can be made by

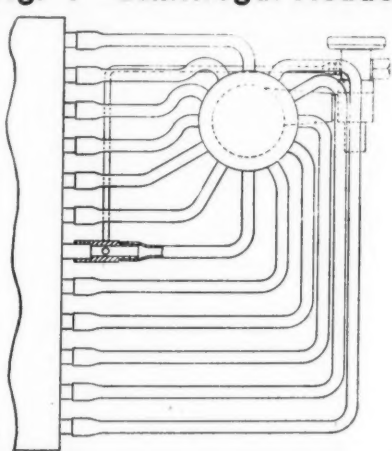
Fig. 3—Improved Header



introducing an elbow between the thermo valve and header as indicated in Fig. 3. The elbow helps reduce the velocity of the refrigerant leaving the expansion valve, thus minimizing the velocity disturbance. There is practically no hope for good performance of such a header on dry expansion coils, even where the entrance elbow or internal baffles are provided, Mr. MacDougall averred.

Fig. 4 shows one of the successful efforts away from gravity and weird distributing devices. It is well known as the centrifugal header, so named because the thermo valve discharges tangentially into the header, creating a centrifugal force which forces the liquid to the periphery of the distributing chamber. Distribution occurs through the radial tubes. The pressure drop through

Fig. 4—Centrifugal Header



the distributing header probably is less than one pound. The thermo valve is placed as nearly as possible to the header to maintain the velocity at its maximum value.

Fig. 5—Orifice Cluster

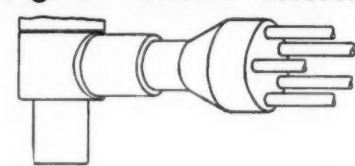
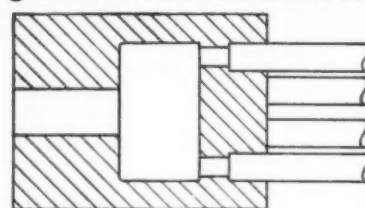


Fig. 5 shows an orifice cluster connected to the outlet of a thermo valve. The orifice type of distributor is the most widely used, Mr. MacDougall explained, and depends upon pressure drop for proper operation. Because of this pressure drop (usually from 5 to 15 pounds), an external equalizer must be used with the thermo valve.

Fig. 6 shows a typical section of a simple orifice distributor. There are many modifications, such as a cone to fill most of the space in the chamber ahead of the orifices, or a twisted strip in the entrance pipe to impart a rotary motion to the fluid to help maintain a homogeneous mixture of gas and a liquid when the distributor is horizontal as shown. Many manufacturers place the distributor vertically to avoid this complication. However, it is difficult to maintain a homogeneous mixture, regardless of the auxiliary devices used.

Fig. 7 is a schematic arrangement

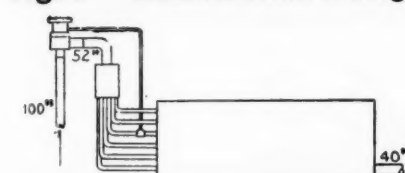
Fig. 6—Section of Distributor



of the thermo valve, distributor, and coil. Although the distributor is shown in the vertical position, which is the best operating position and the one usually employed, it is evident that there is ample space for a separation of the liquid and gas to be effected, with the consequent impairment of distribution.

After testing the devices just described and many modifications of them, the conclusion was inescapable that separation of the liquid and gas

Fig. 7—Combination Design

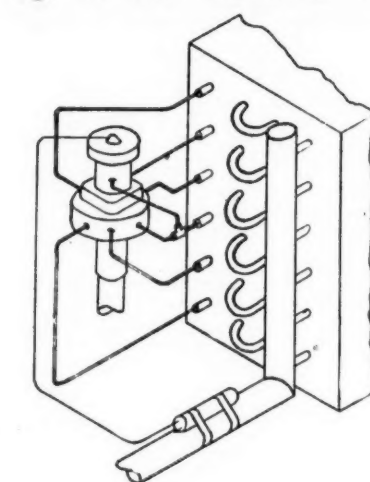


usually caused the trouble. The logical step was to prevent this separation, Mr. MacDougall says, and he states this was accomplished by placing the point of separation at the point of expansion, the result being a thermo valve and distributor combined into one device, known as the multi-outlet thermo valve.

In a multi-outlet thermo valve, after entering at the bottom, the refrigerant is expanded uniformly about the periphery of the pin, which is held exactly in the center of the valve seat port by the accurately ground collar on the pin. Immediately above the seat port, the refrigerant is distributed through the radial orifices. The tubes connecting the radial outlet to the coil circuit inlet need not be of the same length as the section area of the tubes is large in comparison to that of the orifices. The remainder of the valve consists of conventional thermo valve parts.

Fig. 8 shows a multi-outlet valve applied to a six-circuit coil. The variable tubing lengths are evident, the respective lengths being determined only by space requirements. Operation would be the same if the valve were installed on its side or

Fig. 8—For 6-Circuit Coil



upside down. The external equalizer is behind the valve and connects in this instance to the fourth circuit from the top. Any other circuit would have been just as good, explained Mr. MacDougall.

As the number of outlets was increased in the multi-outlet valve, it was necessary to place the outlets in two planes. Upon the first attempt, said Mr. MacDougall, it was found that the distribution was very poor, evidently caused by the greater distance between the valve seat and the upper outlet. This slight increase in the distance between the points of expansion and distribution was sufficient to impair distribution. The solution lay in the employment of a double-seated valve for outlets in two planes, the upper seat supplying the outlets in the upper plane.

## Farm Equipment Makers Must Abide by L-26

WASHINGTON, D. C.—Manufacturers of types of farm machinery and equipment covered by Limitation order L-26 are subject to terms of that order even if they have been able to obtain materials without using preference ratings, the War Production Board warns.

The Farm Machinery and Equipment Branch of WPB has been advised that some manufacturers possessing large inventories of materials or able to buy materials through jobbers without the use of preference ratings have been ignoring the terms of L-26.

## USE ONLY GENUINE GRUNOW PARTS

Write For Name Of Jobber Nearest You  
Grunow Authorized Service, Inc.  
4313 W. Fullerton Ave. Chicago, Ill.

U. S. GOVERNMENT Specification  
**Filtrine**  
Cafeteria Coolers  
Filtrine Mfg. Co., Brooklyn

The Machine For Your Next Job...  
If it's a refrigeration job...no matter how big or how small...we can supply Lipman equipment to fit the specifications. Let us work with you.  
GENERAL REFRIGERATION DIVISION  
Yates-American Machine Co.  
Dept. AC-3, Beloit, Wis.  
Model 153 Water-cooled Machine

SQUARE D IN REFRIGERATION  
DO IT ALL WITH SQUARE D  
SWITCH PROTECT REGULATE  
SQUARE D COMPANY  
REGULATOR DIVISION - DETROIT

MILLS MIGHTY REFRIGERATION  
Mills Condensing Units  
By Mills Novelty Company  
4100 Fullerton Ave., Chicago, Ill.

Specify ALCO for Maximum Efficiency, Trouble-Free Performance  
ALCO VALVE CO. ST. LOUIS, MO.

MUELLER BRASS CO.  
Port Huron, Mich.  
TRIPLE SEAL DIAPHRAGM VALVE  
Longer Diaphragm Life  
Positive Sealing at Three Essential Points

Make **WEATHERHEAD** your No. 1 source of supply for these  
**REFRIGERATION ACCESSORIES**

**MANIFOLD ASSEMBLIES**—assembled with either Packless or Packed Valves.

**RECEIVER TANKS**—horizontal and vertical. Processed from steel tubing with end caps and fittings hydrogen welded into an integral assembly. Leak-proof construction.

**STRAINERS**—seamless steel tubing with formed ends and stainless steel screens hydrogen welded into an integral assembly.

**CHARGING HOSE**—non-rubber, non-metallic and flexible with four inches of copper tube at each end which is easily refitted and replaced when worn down.

**TESTING VALVES**—a tool of many uses for charging and testing to check systems for leaks. Makes recalibration of gauges easy.

**THE WEATHERHEAD CO.**  
300 East 131st Street  
CLEVELAND, OHIO  
**WEATHERHEAD**  
Refrigeration Valves, Fittings and Accessories



## New Order Will Limit Inventories of Firms Handling Refrigeration Supplies

(Concluded from Page 1, Column 5) permissible maximum, must not receive any deliveries of such supplies until the inventories are reduced below the maximum. However, when inventories are below maximum, suppliers may receive deliveries of minimum commercially procurable quantities, even though such deliveries would raise their inventories above the maximum.

### Text of Order

TITLE 32—NATIONAL DEFENSE  
CHAPTER IX—WAR PRODUCTION BOARD  
Subchapter B—Division of Industry Operations  
Part 1046—SUPPLIERS  
SUPPLIERS' INVENTORY LIMITATION ORDER L-63

The fulfillment of requirements for the defense of the United States has created a shortage in the supply of aluminum, copper, iron, steel, and other materials for defense, for private account, and for export; and the following Order designed to prevent the undue accumulation of inventory in the hands of Suppliers is deemed necessary and appropriate in the public interest and to promote the national defense:

#### 1046.3 Suppliers' Inventory Limitation Order L-63

(a) Definitions:  
(1) "Supplies" means all the supplies listed below, including appliances, normally carried in stock for sale by suppliers of:

- (i) Automotive Supplies
- (ii) Aviation Supplies
- (iii) Builders Supplies
- (iv) Construction Supplies
- (v) Dairy Supplies
- (vi) Electrical Supplies
- (vii) Farm Supplies
- (viii) Foundry Supplies
- (ix) Grain Elevator Supplies
- (x) Hardware Supplies
- (xi) Health Supplies
- (xii) Industrial Supplies
- (xiii) Plumbing & Heating Supplies
- (xiv) Railroad Supplies
- (xv) Refrigeration Supplies
- (xvi) Restaurant Supplies
- (xvii) Textile Mill Supplies
- (xviii) Transmission Supplies
- (xix) Welding & Cutting Supplies

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, \$2.50. Three consecutive insertions, 12½¢ per word; minimum charge \$3.75.

RATES for all other classifications, 10¢ per word, minimum charge, \$5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, \$12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

#### POSITIONS AVAILABLE

PURCHASING AGENT. Young, engineering minded, preferably with automotive purchasing experience. Well established Midwest manufacturer now producing cargo trailers on government orders. Opportunity to stay with the company after the war, when it will return to refrigerator manufacturing. Working knowledge of refrigeration helpful. Write, outlining qualifications. Box 1394, Air Conditioning & Refrigeration News.

#### EQUIPMENT FOR SALE

BRAND NEW Mullens Mod. N-10 evaporators for 6 cubic ft. refrigerators can be used as replacements on high sides, dry expansion capillary systems, tube connections ¾" pipe inlet, ¼" tube outlet, dimensions 9½" wide 11" depth, 11" high, bolt centers 5 to 7" slotted by 9½". Limited quantity available each \$7.50; 4 lots, \$7.00; 12 lots, \$6.50. Fully Guaranteed, for immediate delivery act at once. R. & R. REFRIGERATION EQUIPMENT CO., 508 Morris Avenue, Bronx, N. Y.

COMMERCIAL UNITS—reconditioned—¾, ½, and ¼ h.p., air cooled and water cooled. Also surplus stock brand new Westinghouse low sides, complete with coils, valves, fans, manual controls, etc. 1 to 2 ton capacity in original factory crates. Write for particulars. ASSOCIATED REFRIGERATOR PLANT, 3028 W. Hunting Park, Philadelphia, Pa.

#### FRANCHISES AVAILABLE

ROYAL announces an exclusive line of Wall Type Beer Display and Storage Cabinets. Remote and self-contained type. Featuring up and down sliding doors—fifteen case to one hundred and ten case capacity, requiring little floor space. Porcelain finish interior and exterior, neon lighting. Limited number of established dealers desired. Write at once for full details. ROYAL STORE FIXTURE COMPANY, 847 North Broad Street, Philadelphia, Pa.

DIRECT FACTORY CONNECTION: Sell refrigerator display cases, reach-in refrigerators, walk-in coolers, compressors, beer and bottle coolers, to meat markets, grocers, taverns, etc. Financing arrangements to help sell. For catalog and selling information write or see EHRICH REFRIGERATOR MFG. CO., St. Joseph, Mo.

(2) "Supplier" means any person (other than a Producer) whose business consists, in whole or in part, of the sale from stock or inventory of Supplies. "Supplier" includes wholesalers, distributors, jobbers, dealers, retailers, branch warehouses of producers and other persons performing a similar function.

(3) "Producer" means any person including any branch, division or section of any enterprise, which manufactures, processes, fabricates, assembles or otherwise physically changes any material.

(4) "Sales" means sales from stock including consigned stocks and excluding direct shipments.

(5) "Seasonal Lines" means any line of Supplies in which a minimum of 40% of the Supplier's total annual sales are made during a period of 90 days, or less.

(6) "Maximum Permissible Inventory" of Supplies means:

(i) In the case of a Supplier located in the Eastern or Central War Time Zones, an inventory (owned or consigned to him) of Supplies of a total dollar value (by Physical or Book Inventory, at the option of the Supplier) equal to THREE TIMES the Dollar Value of sales of such Supplies, shipped from his inventories, during the SECOND PRECEDING calendar month.

(ii) In the case of a Supplier, located in any other Time Zone, an inventory, (owned or consigned to him) of Supplies of a total dollar value (by Physical or Book Inventory, at the option of the Supplier) equal to THREE TIMES the Dollar Value of sales of such Supplies, shipped from his inventories, during the SECOND PRECEDING calendar month.

(b) Limitation of Supplier's Inventories:

(1) Except as provided in paragraphs (b) (3), (4), (5), and (6), no Supplier shall accept any delivery of Supplies from any person which will effect an increase in inventory of supplies in the hands of the Supplier above the Supplier's Maximum Permissible Inventory; and

(2) Except as provided in paragraphs (b) (3), (4), (5) and (6), no person shall make to any Supplier any delivery of Supplies which such person knows or has reason to believe will effect an increase in such Supplier's inventory of Supplies above the Supplier's Maximum Permissible Inventory.

(3) The Supplier in any Time Zone shall be permitted to purchase and store an amount of Seasonal Lines equal to those which he purchased in the peak period of a comparable period of the previous year, but this peak season shall not exceed ninety days.

(4) A Supplier may accept delivery of Supplies which will increase his stock above the Maximum Permissible Inventory, if such Supplier's inventory of Supplies is at the time of delivery less than his Maximum Permissible Inventory and the delivery is of the minimum quantity of such Supplies that can be commercially procured.

(5) The Director of Industry Operations may, from time to time, exempt specified Suppliers or classes of Suppliers from the provisions of this Order, subject to such restrictions as the Director of Industry Operations may impose.

(6) The provisions of this Order shall not apply to any Supplier:

(i) whose total inventory at cost, including consigned stocks, of all supplies is less than \$20,000.00, and

(ii) whose total inventory at cost of each type of supplies as set forth in paragraph (a) (1) of this Order, is less than \$10,000.00.

(c) Provisions of Other Orders.

No provision of this Order shall be construed to permit the accumulation of inventories of any item of Material in contravention of the provisions of any other applicable Order or Orders issued by the War Production Board or heretofore issued by the Office of Production Management.

(d) Appeals.

Any person affected by this Order, who considers that compliance therewith would work an exceptional and unreasonable hardship upon him, may apply for relief to the War Production Board by telegram or letter setting forth the pertinent facts and the reason such person considers that he is entitled to relief.

(e) Records and Reports.

(1) Each Supplier (other than those Suppliers who are exempt from the provisions of this Order pursuant to Paragraphs (b) (5) or (6)) shall, on or before the twentieth day of each month make proper entry of inventory (Book or Physical at cost), sales of direct shipments, sales, from stock, and total sales of each type of Supplies as set forth in paragraph (a) (1) of this Order, during the previous calendar month on Form PD-336. This form must be retained for a period of at least two years for inspection by representatives of the War Production Board.

(2) The Director of Industry Operations may at any time call for these reports to be submitted to the War Production Board.

(f) Applicability of Priorities Regulation No. 1.

This Order, and all transactions affected thereby are subject to the provisions of Priorities Regulation No. 1 (Part 944), as amended from time to time, except to the extent that any provision hereof may be inconsistent therewith, in which case the provisions of this Order shall govern.

(g) Communications.

All communications concerning this Order shall be addressed to "War Production Board, Washington, D. C., Ref: L-63."

(h) Effective Date.

This Order shall take effect immediately, and shall continue in effect until amended or revoked by the Director of Industry Operations.

Issued this sixth day of April, 1942.

J. S. KNOWLSON,  
Director of Industry Operations.

## This Is Form Recommended For Supplier's Inventory Record

PD-336  
31965

(This form can be reproduced in same form)

No. ....  
(do not fill in)

### WAR PRODUCTION BOARD

Division of Industry Operations

WPB 806

DISTRIBUTORS' AND REPORT FORM,  
(To be used for Order L-63)

(Name of Company)

(Address)

(Name of parent company, if any)

(Address)

Check type of supplies covered by this report

#### TYPE OF SUPPLIES

- ☐ Automotive
- ☐ Aviation
- ☐ Builders
- ☐ Construction
- ☐ Dairy
- ☐ Electrical
- ☐ Farm
- ☐ Foundry
- ☐ Grain Elevator
- ☐ Hardware
- ☐ Health
- ☐ Industrial
- ☐ Plumbing & Heating
- ☐ Railroad
- ☐ Refrigeration
- ☐ Restaurant
- ☐ Textile Mill
- ☐ Transmission
- ☐ Welding & Cutting

Distributors whose inventories of one or more types of supplies are limited under Limitation Order L-63 are required to enter in the table below sales and inventory data for the preceding month. If your inventory includes more than one type of supplies listed above, a separate record must be kept for each type of supplies.

ENTRIES MUST BE MADE BEFORE THE 20TH DAY OF EACH MONTH. THE RECORD MUST BE KEPT UP TO DATE AND IN YOUR POSSESSION AT ALL TIMES FOR INSPECTION BY AUTHORIZED AGENTS OF THE WAR PRODUCTION BOARD. The Director of Industry Operations may call for submission of this record to the War Production Board at any time.

- Physical inventory at cost of type of supplies checked above (including consigned stocks) as of December 31, 1941.
- Sales and inventory record of type of supplies checked above, starting with January, 1942.

1942 Month	Total Dollar Sales	Direct Shipments	Shipments from Stock	Inventory on last day of month*	Official Signature
Jan.					
Feb.					
Mar.					
Apr.					
May					
June					
July					
Aug.					
Sept.					
Oct.					
Nov.					
Dec.					

\*Book Value (at cost)—including consigned stocks.

31965

#### CERTIFICATION

WPB 806

TITLE 32—NATIONAL DEFENSE  
CHAPTER IX—WAR PRODUCTION BOARD  
Subchapter B—DIVISION OF INDUSTRY OPERATIONS  
PART 1046

SUPPLIERS' ORDER NO. M-67

Part 1046.1 (Suppliers' Order No. M-67) is hereby revoked.  
Issued this 6th day of April, 1942.

J. S. KNOWLSON  
Director of Industry Operations

## Further Copper Cut Expected Shortly

(Concluded from Page 1, Column 4)

It was pointed out by the War Production Board that orders implementing the program now are being issued and that further orders would be issued in the immediate future.

The orders not only will restrict the distribution of new copper, but the use of copper in inventory now in the hands of manufacturers of non-essential items, or items the nation can do without on an emergency basis.

The program is the first in a series which will be issued by the Requirement Committee with the purpose of arriving at a unified and planned disposition of the available supply of the basic scarce materials, particularly metals and chemicals.

## Plumbing Fixture Prices Are Frozen

WASHINGTON, D. C.—In an effort to avert speculative price increases likely to follow a forthcoming War Production Board order curtailing manufacture of some types of plumbing fixtures, the Office of Price Administration has frozen prices for such products at levels in effect on March 30, 1942.

Affected by the regulation are "plumbing fixtures of all types, kinds, sizes, shapes and colors, whether made of vitreous china, porcelain, enameled cast iron or formed metal, and their accessories."

The regulation stipulates that maximum prices, during the period set, shall be such that the cost to the purchaser is not in excess of what it was or would have been to such purchaser on March 30, 1942, on the basis of the prices, trade, quantity and cash discounts, charges, deposits and allowances, whether published or unpublished, then listed or quoted by the seller, and on the basis of the freight and delivery practices used.

*Silent...  
Vibrationless...*

# Dayton

## V-BELTS

**FOR ALL LEADING MAKES OF HOUSEHOLD APPLIANCES**

• Silent and vibrationless—  
Dayton V-Belts are especially  
designed to give a powerful grip

on short center applications  
without slipping or stretching.  
Built with stronger, cooler-run-  
ning Daytex Cord and other  
patented and exclusive fea-  
tures, Dayton V-Belts perform  
better and last longer. Order  
dependable Dayton V-Belts  
from your jobber today.

**THE DAYTON RUBBER MFG. CO.**  
DAYTON, OHIO

DAYTON RUBBER EXPORT CORP.  
36 Pearl St., New York, N. Y., U. S. A.  
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## THE BUYER'S GUIDE

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FOR MAXIMUM EFFICIENT REFRIGERATION

★ FOR Locker Plants, Sharp Freezing, Ice Cream Cabinets, Hardening Rooms, Soda Fountains, Storage Rooms, Milk Coolers, Liquid Cooling, Food Counters and other similar uses.

Write us today for complete information and catalog

STANGARD-DICKERSON CORP.

46-76 Oliver Street

Newark, N. J.

Specialists in the Manufacture of all types of COLD PLATES

Stangard facilities are contributing to the production of materials for our National Defense



### SELF-SERVICE WALL DISPLAY CASE

#### NEW! UNIQUE! PRACTICAL!

FOR DAIRY PRODUCTS OR PRODUCE. UPPER AND LOWER SLIDING DOORS. FULL VISION DISPLAY—FLUORESCENT LIGHTS. PORCELAIN INTERIOR AND EXTERIOR. PROMPT DELIVERY!

Complete Line of Cases, Reach-In Boxes, Walk-In Coolers, Beer Equipment, Etc.

Write Today for Interesting Distributor Proposition.

**FOGEL REFRIGERATOR COMPANY**, since 1899  
Philadelphia, Penna.

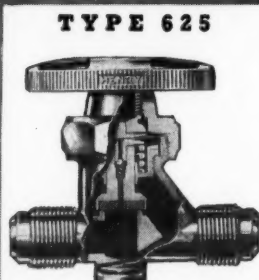
# HENRY

### Balanced-Action Diaphragm Packless Valve

The only packless valve that gives you 24 important features of design, construction and operation—all described in catalog No. 95. It's yours for the asking.

LEAK PROOF • PORTS IN LINE • LONGER LIFE • OVAL HAND WHEEL

HENRY VALVE CO., 1019 N. SPAULDING AVE., CHICAGO



ASK YOUR JOBBER



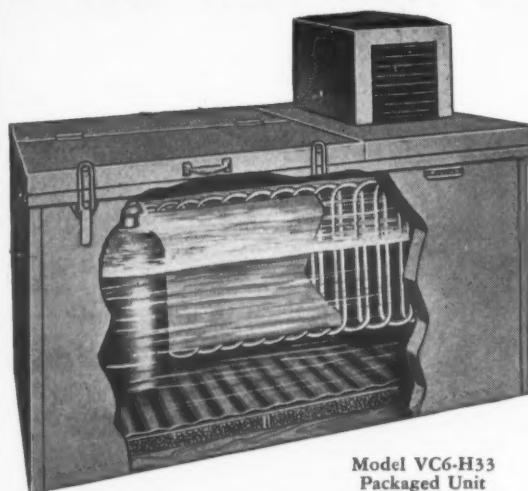
**IGLOO Says:**  
*Freeze on to something Hot!*  
Try our Super-Service on PARTS and Supplies  
for **REFRIGERATION and Air Conditioning**

**THE HARRY ALTER CO.**  
1728 S. MICHIGAN AVENUE, CHICAGO, ILLINOIS  
3 CHICAGO BRANCHES, NORTH, WEST, SOUTH

NEW YORK  
PHILADELPHIA  
BRONX  
JAMAICA

NEWARK  
DETROIT  
CLEVELAND  
ST. LOUIS

## A FEW FRANCHISES AVAILABLE TO QUALIFIED DEALERS



Model VC6-H33  
Packaged Unit

## WILSON

### SYSTEMS OF MILK COOLING

A TYPE FOR EVERY REQUIREMENT

#### 2. VERTI-COIL "Packaged-Unit Milk Cooler"

- Wilson Patented VERTI-COIL Cooling Coil provides 50% greater cooling capacity than conventional coil arrangements.
- Send for details of its:  
RAPID AND UNIFORM COOLING  
MAXIMUM COOLING EFFICIENCY  
LOW COST OF OPERATION  
LIFE-TESTED CONSTRUCTION

This advertisement is one of a series on Wilson Commercial Refrigeration

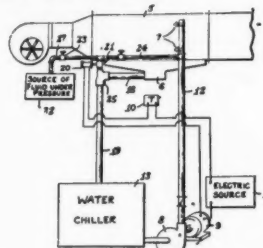
**WILSON CABINET CO.**

SMYRNA DELAWARE

## PATENTS

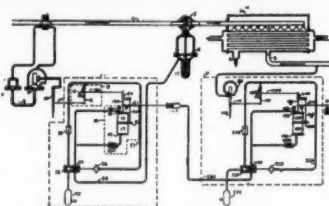
### Weeks of March 3 & 10 (Continued)

2,275,879. **AIR CONDITIONING SYSTEM FOR PASSENGER VEHICLES.** Samuel M. Anderson, Sharon, Mass., assignor to B. F. Sturtevant Co., Boston, Mass. Application Dec. 30, 1939, Serial No. 311,788. 3 Claims. (Cl. 261-36.)



1. Air conditioning apparatus comprising an air washer having a sump, means including a pump for supplying water to said washer, a pipe for draining water by gravity from said sump, a source of fluid under pressure, means utilizing fluid from said source for producing a suction by ejector action in said pipe for initiating the flow of water therethrough, and thermostatically controlled means for energizing said pump and said last mentioned means.

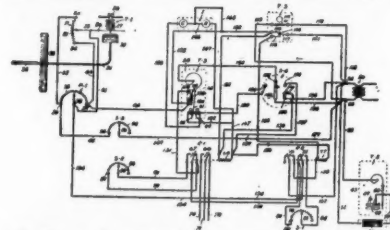
2,275,997. **CONTROL FOR ABSORPTION REFRIGERATING SYSTEMS.** Francis P. Shannon, Louisville, Ky., assignor to Henry Vogt Machine Co., Louisville, Ky., a corporation of Kentucky. Application May 22, 1941, Serial No. 394,680. 4 Claims. (Cl. 62-5.)



1. In a control system for pneumatically controlling the weak-liquor valve in an absorption refrigerating system of the closed cycle type wherein weak-liquor from a heat exchanger and gas from an evaporator are fed to an absorber to form a strong liquor, the combination with a "main" control system of the reset type—having: a terminal pressure line charged with an operating air pressure and connected pneumatically to the weak-liquor valve to adjust the latter in response to changes in its operating air pressure; an air leakage relay, responsive to changes in the weak-liquor flow, to change the operating air pressure in order to move the valve and thus restore the flow; a reset mechanism, responsive to changes in the operating air pressure, to reset the air-leakage relay so that when the flow is restored the relay will maintain the air pressure at the changed value; and a connection between the reset mechanism and the air leakage relay which connection is adjustable to different control points corresponding to different weak-liquor flows—of an "auxiliary" control system of the same reset type, responsive to changes in an operating condition of the absorption system requiring for correction a new rate of weak liquor flow, for adjusting the control point connection of the main control sys-

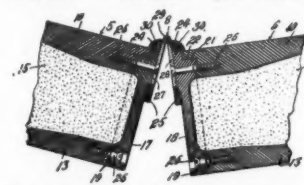
tem to the new flow rate, the auxiliary control system having: its air leakage relay operating, in response to changes in said operating condition, to change its operating air pressure; its terminal pressure line connected pneumatically to the main control point connection and operating, in response to changes in its operating air pressure, to adjust the main control point connection; and its reset mechanism operating, in response to changes in its operating air pressure, to reset the air leakage relay so that when said other operating condition is corrected, the relay will maintain the operating air pressure at the changed value.

2,276,058. **TEMPERATURE CONTROL SYSTEM.** John T. Midyette, Jr., New Rochelle, N. Y., assignor to Au-Temp-Co Corp., New York, N. Y., a corporation of New York. Application Oct. 24, 1939, Serial No. 300,924. 7 Claims. (Cl. 236-91.)

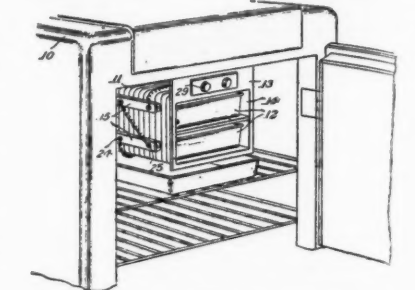


1. In a temperature control system for maintaining within limits the temperature of a space within a building, a source of heat to be delivered to said space, means for controlling the delivery of such heat to said space including a temperature-responsive device, a housing, a temperature-responsive device within said housing, means controlled by the last mentioned temperature-responsive device to maintain the same and the region immediately surrounding the same at a substantially constant temperature irrespective of atmospheric conditions within said space, means including said housing for subjecting the first mentioned temperature-responsive device to the influence of air conducted directly to said first mentioned temperature-responsive device from said constant temperature region, and means operating in accordance with variations in outside atmospheric conditions for delivering heat to said first mentioned temperature-responsive device in a varying and supplemental relation to the heat derived from said region.

2,276,205. **COVER FOR COOLER CABINETS.** Harold D. King, Medina, Ohio, assignor to American Hard Rubber Co., New York, N. Y., a corporation of New York. Application April 29, 1940, Serial No. 332,259. 4 Claims. (Cl. 220-24.)



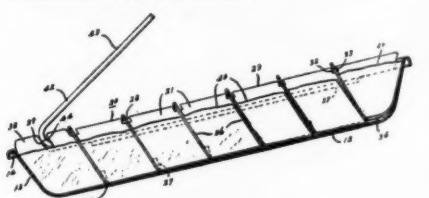
4. In a cooler cabinet structure having two covers hinged together at their inner ends, each covering comprising a top wall, an outer end wall, side walls, and a bottom wall molded integrally from a plastic material to constitute an open-ended pocket having its mouth at the inner hinge-carrying end of the cover for receiving an insulating material, the free inner ends of the top wall, the side walls, and the bottom wall surrounding the mouth of the pocket being recessed, a detachable wall the edges of one surface of which are provided with beads adapted to fit into the recesses to close the pocket, means for securing the detachable wall to the recessed free inner ends of the top wall, the side walls, and the bottom wall, and means covering the joint between the outer surface of the upper end of the detachable wall and inner end of the top wall of the cover to prevent ingress of moisture into the interior of the cover.



2,276,434. **REFRIGERATION.** Albert B. Thomas, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application July 16, 1938, Serial No. 219,511. 8 Claims. (Cl. 62-125.)

1. In a heat transfer system including a first circuit partly filled with a volatile liquid and having an evaporation portion at an upper elevation and a condensation portion at a lower elevation, a second circuit containing a liquid of greater specific weight than the volatile liquid, and means associating said circuits whereby liquid in said second circuit is circulated by vapor formed in said first circuit and circulation of liquid in said second circuit effects lifting of liquid in said first circuit between said elevations.

2,276,491. **REFRIGERATING APPARATUS.** James W. Jacobs, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application June 27, 1940, Serial No. 342,755. 3 Claims. (Cl. 62-108.5.)

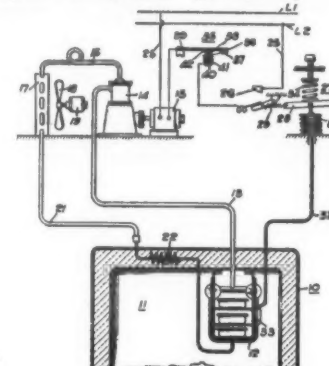


1. A unitary removable grid for an ice tray comprising, a longitudinal partition composed of a lower part and an upper part disposed in substantially the same vertical plane and movable lengthwise relative to one another, a plurality of spaced apart partitions extending transversely to said longitudinal partition and having connections with each of said parts thereof to form the sole means for securing said partitions together, the connections of said transverse partitions with said parts of said longitudinal partitions being so constructed and arranged as to maintain said upper part of said longitudinal partition in a normal predetermined position relative to said lower part thereof and to maintain said transverse partitions in a normal inclined position with respect to the vertical, detachable means adapted to engage and apply force between said parts of said longitudinal partition for moving one of said parts lengthwise relative to the other part thereof to cause tilting of said transverse partitions toward the vertical, and the connections of said transverse partitions with said parts of said longitudinal partition also being constructed and arranged to limit the relative lengthwise movement of said parts and prevent some of said transverse partitions from being tilted into the vertical whereby said transverse partitions will return by gravity to their respective normal positions when said means is detached from said grid.

2,276,614. **COOLING DEVICE.** Herbert L. Grapp, Minneapolis, Minn. Application (Continued on Page 23, Column 1)

### Weeks of March 17 & 24

2,276,369. **CONTROL APPARATUS.** Leslie B. M. Buchanan, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Original application June 6, 1939, Serial No. 277,605. Divided and this application Dec. 23, 1939, Serial No. 310,772. 10 Claims. (Cl. 62-4.)



1. In apparatus for controlling the operation of a refrigerating machine, the combination of means for starting and stopping operation of the refrigerating machine, and means for preventing starting of the refrigerating machine until a time interval of predetermined duration has elapsed subsequent to stopping thereof during normal operation.

2,276,454. **ELECTRIC DEFROSTER FOR REFRIGERATORS.** Harry L. Becker, Council Grove, Kan. Application March 9, 1939, Serial No. 260,836. 7 Claims. (Cl. 62-1.)

1. In a refrigerator having a cooling coil, the combination of a casing secured to the said coil and having an open side in appressed confronting relation therewith, a heating element within the casing adjacent the open side thereof, electrical insulating, heat conducting material interposed between the said heating element and the said cooling coil, and a heat insulating material interposed between the heating element and the closed sides of the said casing.

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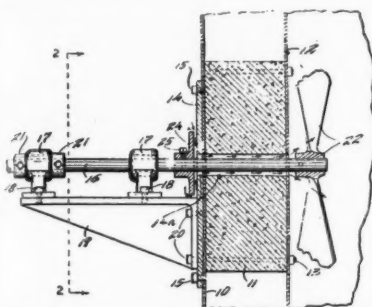
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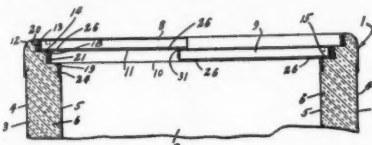
# Patents (Cont.)

(Continued from Page 22, Column 5)  
March 13, 1941, Serial No. 383,143.  
3 Claims. (Cl. 263-1.)



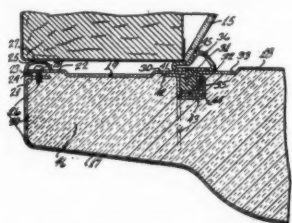
1. The combination with a heated chamber, a shaft extending through one wall thereof, said wall having a passage through somewhat larger than said shaft, and means for drawing air into said chamber through said passage of a disk formed of metal having a high conductivity secured to said shaft closely adjacent said wall whereby heat from said chamber and shaft will be absorbed by said disk and air drawn into said passage by said means will wipe around said disk and cool the same.

2,276,635. **LOW TEMPERATURE CABINET.** Karl A. Weber, Los Angeles, Calif. Application Jan. 15, 1940, Serial No. 313,909. 6 Claims. (Cl. 220-41.)



1. A low temperature food cabinet having vertically extending walls, each of said walls being of heat insulating material and being formed at their upper end to provide vertically spaced steps, metal strips on said steps and forming tracks, overlapping doors positioned on said tracks, and breaker strips interposed between said metal tracks and insulating one from the other.

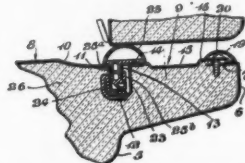
2,276,742. **REFRIGERATOR.** Karl F. Schmidt, Indianapolis, Ind., assignor, by mesne assignments, to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application May 2, 1938, Serial No. 205,510. 4 Claims. (Cl. 20-35.)



1. In a door structure of the type described, an outer metallic panel, inner metallic panels spaced from said outer panel, means for connecting said outer panel to one of said inner panels, a heat-insulating element interposed between said outer panel and said inner panel at said connection, the opposed margins of said inner panels being relatively spaced, a flange on each margin, a gasket of heat-insulating material interposed between said flanges and embracing one of said flanges, an element of heat-insulating material overlying the other of said flanges, and a member overlapping said gasket and said last named element, adapted to secure said inner panels and gasket in assembly.

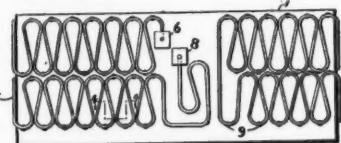
2,276,778. **REFRIGERATOR CABINET CONSTRUCTION.** Robert Winter Hall, Connersville, Ind., assignor, by mesne assignments, to Philco Corp., Philadelphia, Pa. Application May 18, 1938, Serial No. 208,683. 5 Claims. (Cl. 20-35.)

1. In refrigerator cabinet construction, a door having spaced inner and outer metal walls formed of sheet metal, said inner wall including a door liner and a frame member surrounding said liner and connected at its outer edge to said outer wall, the contiguous edge portions of said liner and frame member being formed with



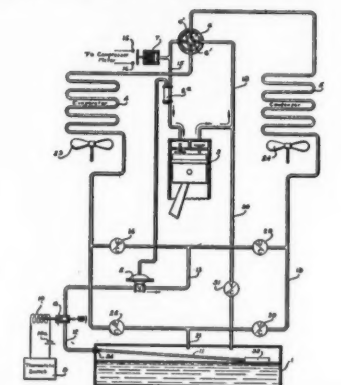
inturned confronting flanges spaced from one another providing a recess therebetween, and a gasket member having a web portion interlocked with one of said flanges and anchored in said recess.

2,276,811. **REFRIGERATOR.** Samuel B. Ward, Chester Heights, Pa., assignor to H. H. Ward Co., Chester, Pa., a corporation of Pennsylvania. Application June 3, 1939, Serial No. 277,191. 5 Claims. (Cl. 62-126.)



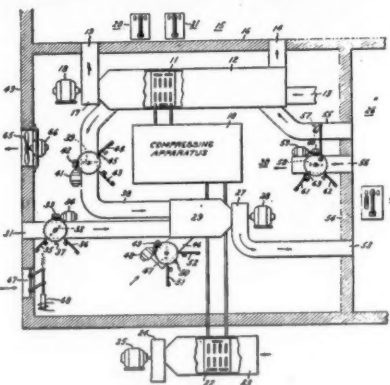
3. A refrigerator comprising a hollow metallic shell having a partition therein dividing it into a plurality of compartments; expansion tubing looped along and bonded to the upper portion of the exterior of the shell throughout the bulk of the periphery thereof, then passing through said partition, and then looped along and bonded to the lower portion of the exterior of the shell throughout the bulk of the periphery thereof; and a coating of metallic particles bonded to the exterior of said shell and tubing by a thermoplastic binder.

2,276,814. **REFRIGERATION SYSTEM.** Joseph E. Zwickl, Philadelphia, Pa., assignor, by mesne assignments, to Allin B. Crouch, Schenectady, N. Y., as trustee. Application July 30, 1938, Serial No. 222,195. 7 Claims. (Cl. 62-115.)



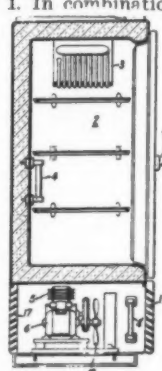
1. A reverse cycle refrigerating system comprising, in combination, a compressor having a suction line, condenser, and evaporator heat exchange elements connected in a refrigerant circuit with said compressor, means for reversing the condenser and evaporator functions of said heat exchange elements, and a single thermostatic expansion valve having a power element connected to said suction line for controlling flow of liquid refrigerant to whichever one of said heat exchange elements is functioning as an evaporator.

2,276,835. **AIR CONDITIONING SYSTEM.** Hal Gibson, Dallas, Tex., assignor to General Electric Co., a corporation of New York. Application Aug. 1, 1939, Serial No. 287,762. 13 Claims. (Cl. 257-3.)



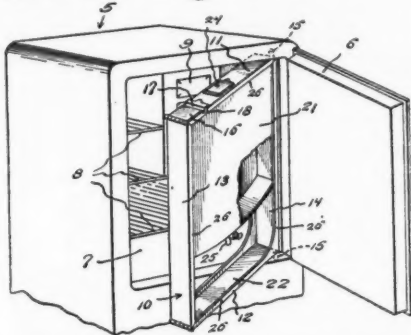
1. An air conditioning system for an enclosure comprising means including a damper for supplying heated air to said enclosure, means including a damper for supplying cooled air to said enclosure, means including a damper for supplying fresh air to said enclosure, means responsive to the temperature within said enclosure, means for closing said heated air damper and conditioning said cooled air damper and said fresh air damper for control by said enclosure temperature responsive means during one period, and means for closing said cooled air damper and conditioning said heated air damper and said fresh air damper for control by said enclosure temperature responsive means during another period.

2,276,850. **GERMICIDAL LAMP IN AIR CONDITIONING APPARATUS.** Eugene Lemmers, Cleveland, Ohio, assignor to General Electric Co., a corporation of New York. Application Dec. 24, 1940, Serial No. 371,491. (10 Claims. Cl. 62-89.)



1. In combination, a chamber, apparatus for conditioning the air therein including a driving motor having starting means and having points in its circuit between which a voltage occurs, due to the functioning of said starting means, materially higher than the motor supply voltage, an electric discharge germicidal lamp in said chamber requiring a starting voltage materially higher than said supply voltage, and means connecting said lamp between said points of higher voltage.

2,276,937. **REFRIGERATOR.** Arturo Cordova, Banes, Cuba. Application May 6, 1941, Serial No. 392,139. 2 Claims. (Cl. 62-89.)

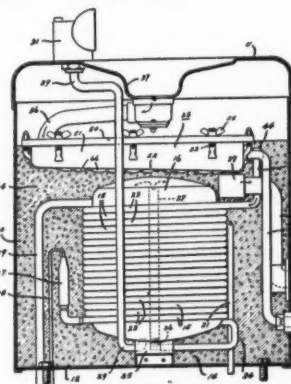


1. In combination with a refrigerator provided with a food compartment and a door normally closing said compartment, a frame hinged to said refrigerator in confronting relation with said compartment and postulated said door and operable to open position upon opening of said door, and a tank carried by said frame and movable with the latter to open position to permit free access to said compartment upon opening of said door, said frame provided with a pair of hinged members normally embracing said tank and operable to open position to effect removal of said tank from said frame.

2,276,942. **REFRIGERATOR SHELF CONSTRUCTION.** Willis B. Dibble, Detroit, Mich. Application March 17, 1941, Serial No. 383,846. 1 Claim. (Cl. 211-143.)

A shelf mounting for refrigerators and the like, comprising side wall rails for a storage compartment, respective slides thereon, each consisting of an inner end portion grooved on its lateral outer side to fit slidably on the respective rail, said slides being relieved on their lateral sides forwardly of the grooved portions defining shoulders and including forward portions having inner laterally extended grooved parts stopping short of the forward end forming a shoulder, a shelf longitudinally slidable in the last named grooved parts, stop means on the rails and shelf cooperable with respective shoulders to limit relative sliding movements on the slidable engaged parts, and said shelf being also provided with a rear stop member, consisting of a transverse guard element spaced above the shelf and having downturned ends set in the side members of the shelf in position to engage a shoulder of the slides when the shelf is moved to the forward limit.

2,276,964. **REFRIGERATING APPARATUS.** Vernet I. Grove, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application July 31, 1940, Serial No. 348,699. 8 Claims. (Cl. 62-141.)



1. An apparatus for cooling drinking water comprising in combination, a cooling chamber and means for conveying water thereto to be cooled, means for cooling the water delivered to said cooling chamber, means for delivering the cooled water to a place of use, said first named means including a precooler, said precooler comprising a pan having an inclined bottom wall and a pipe disposed thereupon, said pipe being bent into a serpentine form with the portions thereof of intermediate its bends extending across the pan transversely of the direction of inclination of the pan bottom, means for admitting cooled waste water to said pan at the top of the inclination of the pan bottom wall, and said pipe and said pan being so constructed and arranged with respect to one another as to direct the waste water back and forth across said pan and in contact with the intermediate portions of said pipe during flow thereof down the inclined bottom pan wall for lowering the temperature of water to be cooled by said second named means.

(To Be Continued)

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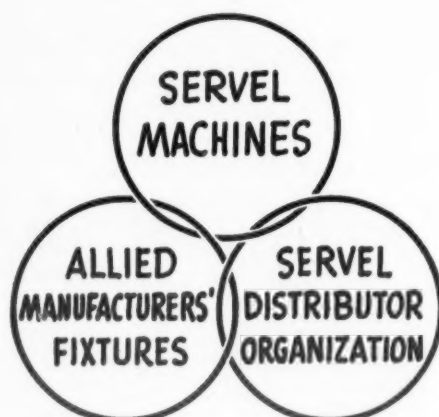
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